IMPROVING SELF-DETERMINATIONS SKILLS IN SECONDARY STUDENTS WITH HIGH-FUNCTIONING AUTISM: AN EVALUATION USING THE SELF-DETERMINED LEARNING MODEL OF INSTRUCTION

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This research study investigates the use of the Self-Determined Learning Model of Instruction as a strategy to improve self-determination skills and workforce readiness skills for students' with Asperger syndrome and high- functioning autism spectrum disorder. This study evaluates the effectiveness of integrating SDLMI into classroom instruction to improve self-determination skills. Mixed quantitative and qualitative methods such as pre-and post-assessment, surveys and artifacts of students' work answer several research questions. The data provided through this research study will provide direction for practitioners designing effective strategies for improving self-determinations skills of students with high-functioning autism spectrum disorders and those previously diagnosed as having Asperger syndrome.

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PREFACE

I was raised in a family where education was valued, helping others was more important than the thanks for doing so and the individuality was respected. This shaped my career choices of working with and helping others. My thirty-four years of teaching paralleled the expanding knowledge base of the intricacies of teaching students with disabilities especially those with autism spectrum disorders.

I have had an interest in understanding the neurodiversity of individuals with autism for many years. That interest grew and changed as I moved into working with 14-21-year-old individuals with Asperger syndrome and high-functioning autism and our understanding of the complex differences with which each individual with autism presents. Through a second master's degree in adolescent counseling my understanding of self-determination and its effect on success in life grew and my teaching changed. I became a facilitator who met students where they were and promoted experiences where they could become more self-determined. However, I found few effective strategies to reach my students.

This dissertation is written for both researchers and the practitioners who work with students in secondary transition and want to grow the knowledge base of evidence-based practiced for youth with HFA. We need to find ways to improve their postsecondary outcomes and becoming more self-determined appears to be one way to do that. With the Self-Determined

Learning Method of Instruction, I found a strategy that I find extremely adaptable to working with students with HFA.

To Steven R. Lyon, my advisor; special thanks. Your patience, steady hand and knowledge have been invaluable. To John Cica, my husband and editor, you are the best, even though I hate track changes and we will always have different styles of writing. I couldn't have gotten through this without your support and editing expertise. To Joan Kester, whose success at earning her doctorate and changing careers mid-stream, as well as her passion for transition, buoyed my decision on the days where I wondered what I was doing; thank you. Without the permission and support of Marilyn Hoyson at the Watson Institute, and Dr. Robertson's suggestion to look at Watson as a site for the study, it might have never happened; thank you.

Special thanks go to the University of Pittsburgh School of Education for creating a cohort Educational Doctorate program that met my needs. While being in the first cohort was sometimes an experience of being on a ship while it was being built, the collaborative program broadened my understanding of different perspectives of education, leadership and divergent problem solving.

Lastly, to the unnamed students with Asperger syndrome, high-functioning autism or whatever label was pinned on you, who have been part of my classes, you are my true inspiration – I learn from you daily and am always ready to meet you where you are in life.

1.0 INTRODUCTION

The Obama administration's blueprint for revising the Elementary and Secondary Education Act [ESEA] uses the term 'college and career ready' to describe desired outcomes for students graduating from high school (2010). According to the National Center on Education Statistics (NCES) report, *The Condition of Education 2015,* between 2000 and 2013, the percentage of students aged 20-24 who were enrolled in college grew by 7% from 32% to 39%. (Kena et al. 2015). In 2012, 11.1% of enrolled students were identified as having disabilities (U.S. Department of Education, NCES, 2015). So that more students with disabilities (SWD) would be college and career ready, the Individuals with Disabilities Education Act (Individuals with Disabilities Education Act, 20 U.S.C. § 1400, 2004) requires that an outcome-based transition plan be developed as part of a student's Individualized Education Plan (IEP). The transition plan must include goals for postsecondary education, employment and independent living, if appropriate (Individuals with Disabilities Education Act, 20 U.S.C. § 1400, 2004). According to Test, Fowler & Kohler (2013), post-school outcomes of students with disabilities continue to improve since the addition of this requirement.

Students identified as having autism spectrum disorders (ASD) are a growing part of that population. ASD became an identified disability in the 1990 re-authorization of IDEA (Individuals with Disabilities Education Act of 1990). Originally, according to the Diagnostic and Statistical Manual of Mental Disorders fourth edition-text revision (DSM-IV-TR), ASD

included students identified with Asperger syndrome (AS)[1]. Individuals with AS or autism without an intellectual disability score at least at the average range of intelligence and generally, under all definitions, have difficulty interacting with others appropriately, and have difficulty communicating and understanding the pragmatics of language and have problems linked to executive functioning (Adreon & Durocher, 2007). The variance in diagnostic criteria, academic levels and other personal strengths and barriers complicate examining these students within the context of transition. Much of the research on evidence-based interventions on students with ASD has focused on elementary-aged students (Test et al., 2009). Thus, it is unknown if instruction with transition-aged students with HFA, is evidence-based. Unlike students with specific learning disabilities (SLD) or students with hearing deficits, characteristics and severity of symptoms vary in students with HFA making it difficult to identify interventions that work for all students. Because people with these disabilities have average or above average intelligence there is often the perception that they do not require specially designed instruction to successfully navigate education and transition (Barnhill, 2014). However, the severity of deficits in language pragmatics, social skills and deficits in executive functioning skills can severely

[1] The terms Asperger syndrome (AS) is included here with high-functioning autism (HFA) to avoid confusion. The DSM-V changed the criteria for autism spectrum disorders and eliminated the subcategories including AS. However, individuals previously identified still have that diagnosis and it is common in the vernacular of special education. HFA is used to refer to individuals with autism spectrum disorders with average to above average intelligence who may or may not have a diagnosis of Asperger Syndrome.

compromise success in school (Barnhill, 2014; Sciutto, Richwine, Mentrikoski, & Niedzwieki, 2012; Mynatt, Gibbons & Hughes, 2013).

ASD was added to the American Psychological Association Diagnostic and Statistical Manual of Mental Disorders IV (2000) in 2000. This led to higher identification of students being identified with ASD (Deisinger, 2015). As parents of these children, searched for answers to improve the behavior, instruction and social skills of their children, advocacy for answers drove the growth of services (Deisinger, 2015). The first wave of students identified with AS or HFA are presently in their twenties with larger populations coming close behind. According to the 36th Annual Report to Congress,

> Between 2003 and 2012, the percentage of the resident population ages six through 21 served under *IDEA*, Part B, that was reported under the category of *autism* increased steadily from 0.2 percent to 0.7 percent. Between 2003 and 2012, the percentages of the populations ages 6 through 11, 12 through 17, and 18 through 21 served under *IDEA*, Part B, that were reported under the category of *autism* all increased. Specifically, the percentages of these three age groups that were reported under the category of *autism* were 165 percent, 285 percent, and 290 percent larger in 2012 than in 2003 (p. XXV).

As students with HFA reach transition age, the complexity of their needs becomes apparent. Kucharczyk et al, (2015) and Dixon and Tanner, (2013) state that many of these students are included in high school academics because they have the intelligence, but their needs are broad. Mynatt et al. (2013) identified increased social difficulty, narrow interests, sensory issues, and lack of self-awareness as barriers to success in higher education and careers. Increasingly, their transition goals include two or four-year colleges. The *NCES Report* reveals that 86% of all two- and four-year colleges report enrollment statistics for students with ASD,

and that this group of students comprises 2% of the population of students with disabilities in institutions of higher learning (Raue, K., and Lewis, L. (2011).

Self-determination has emerged as an important concept in special education and secondary transition. Several definitions for self-determination are offered in the literature. Field and Hoffman, (1994) state that self-determination is "the ability to identify and achieve goals based on a foundation of knowing and valuing oneself" (Field & Hoffman, 1994, p. 164). Wehmeyer defines self-determination as "acting as the primary causal agent in one's life and making choices and decisions regarding one's quality of life free from undue external influence or interference" (Wehmeyer & Fields, 2007, p. 3). Algonzzine, Browder, Karvonen, Test and Wood (2001) found that self-determination interventions were effective in improving student outcomes. The findings from Fullerton and Coyne (1999) suggest that classes on self-determination topics related to autism were helpful and suggestions for supporting self-determination for students with autism included exploring the student's ways of thinking, expanding choices and helping students monitor their goal achievement. Promoting self-determination is a critical issue in education. According to Field, Hoffman and Posch (1997) "the emergence and nurturance of self-determination is necessary for the healthy growth of all adolescents" (p. 285). Federal legislation supports the importance of self-determination in the transition of youth by requiring that youth must be included in the development of their own transition plan (Field, Hoffman & Posch, 1997). IDEA regulations on secondary transition state that the services are: "based upon the student's needs and considers their strengths, preferences and interests" [34 CFR 300.43 (a)] [20 U.S.C. 1401(34)].

Part of being self-determined is having the ability to direct and regulate one's own learning through setting and realizing goals in both academics and transition. There are several

strategies and curricula used to improve self-determination in secondary transition aged SWD. The National Center for Secondary Transition Technical Assistance Center (NSTTAC) identifies "Next S.T.E.P.," "ChoiceMaker," and "Whose Future Is It Anyway?" as published researched-based curricula in self-determination (NSTTAC, 2013). Using person-centered training and directly teaching skills that enhance knowledge of self-determination is another approach advanced by NSTTAC. One non-commercial instructional strategy that enables teachers to teach students to regulate their own learning is the Self-Determined Learning Model of Instruction (SDLMI) (Mithaug, Wehmeyer, Agran, & Palmer, 1998). NSTTAC found moderate evidence on teaching goal attainment with SDLMI (Test, Fowler & Kohler, 2013). SDLMI is a strategy designed to put students in charge of their learning and to become 'causal agents' in their own lives (Wehmeyer et al., 2007). This model can be used with students with or without disabilities. Students using SDLMI successfully attain academic-content or transition goals and the instructional intervention can increase opportunities for students to direct their own learning. Students using SDLMI have improved post-school outcomes (Wehmeyer & Fields, 2007).

SDLMI is an instructional strategy, designed to teach students how to identify and set a goal, identify strategies to help learn how to accomplish the goal and where to get assistance and modify strategies if they encounter difficulties (Mithaug et al., 1998). There are three phases to implementing SDLMI as explained in Figure 1. Each phase has the student ask themselves questions. The teacher is given a series of objectives that accompany each question (Wehmeyer, 2012). While the vocabulary of the questions can be adjusted to match the cognitive level of the students, the wording should remain the same.

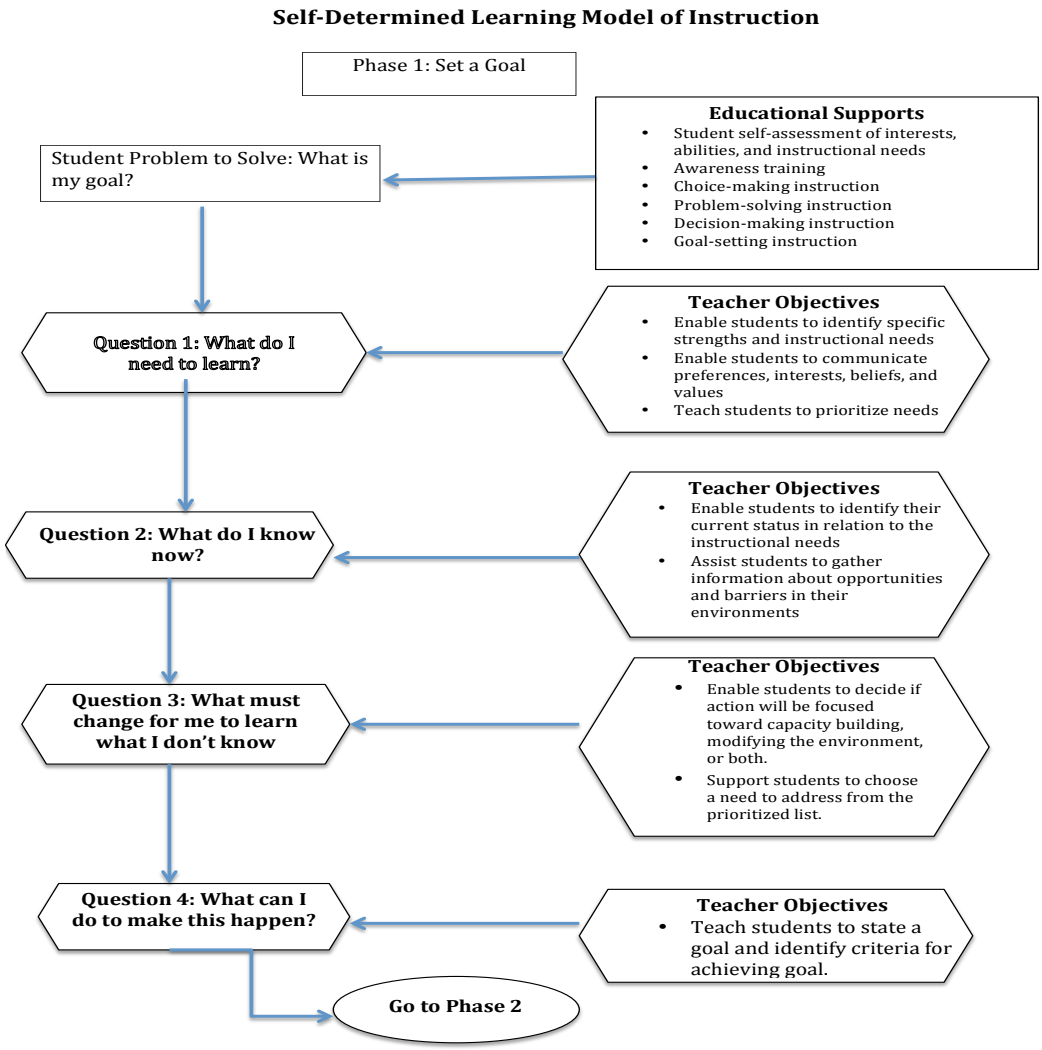


Figure 1: The first phase of SDLMI

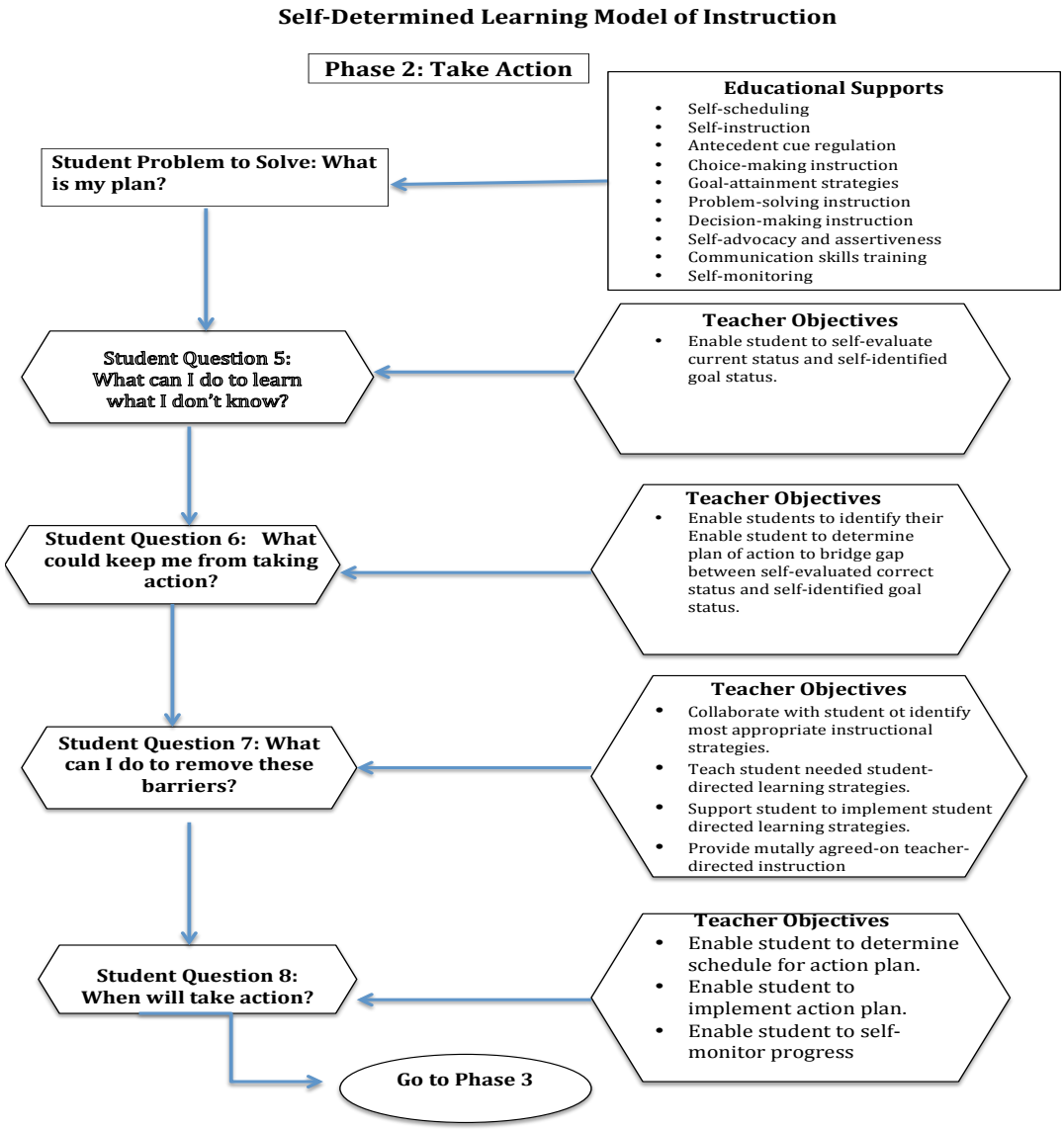


Figure 2: The second phases of SDLMI

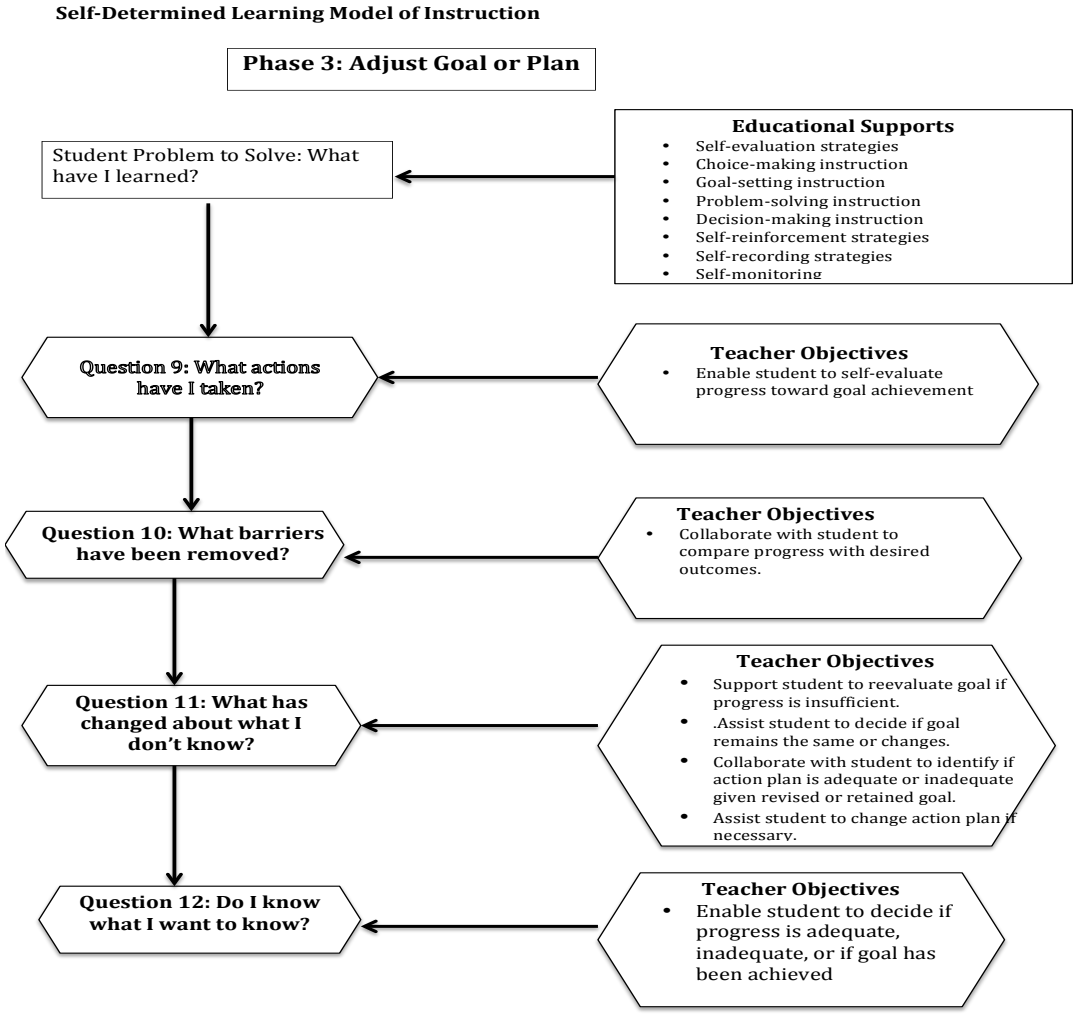


Figure 3: The third phase of SDLMI

These explain how the student and instructor work together to implement the SDLMI model.

1.1 STATEMENT OF PROBLEM

Students with HFA demonstrated difficulty acquiring and applying Self-determination skills to post-secondary outcomes. As a group, little research has been done to document effective evidenced-based practices. SDLMI can be used to assist students in improving problem solving and goal setting skills, which can aid in improving self-determination skills. Since transition-aged students with HFA often have poor self-determination skills, improving those skills can improve post-secondary outcomes. As a population increasing in size yearly, identifying strategies to improve post-secondary outcomes and self-determination is critical for students with ASD. Additionally, since these students are included in academic mainstream settings, ways to improve self-determination skills within the everyday curriculum and schedule is vital.

2.0 REVIEW OF THE LITERATURE

SDLMI is an evidence-based intervention designed to improve self-determination in students with disabilities. It was developed as an intervention that could be used during student instruction in classrooms or the community with students with disabilities (Agran & Wehmeyer, 2000). Self-determination has been determined to improve postsecondary outcomes for students with disabilities. The purpose of this literature review is to analyze the available research on SDLMI. Specifically, the questions are:

1. What effect has SDLMI had in raising self-determination scores in students with disabilities?
2. What effect has SDLMI had in improving goal attainment in secondary- aged students with disabilities?
3. What effect has SDLMI had in improved self-determination skills with students with HFA?

2.1 METHOD

2.1.1 Search Procedures

Studies for this search were identified using two methods. An electronic search using the Electronic Research Information Center (ERIC) and the Psychological Information Database (PsycINFO) was completed. The term self-determined learning model of instruction was used to identify articles for inclusion. An ancestral hand search was completed to identify any other research not located through the electronic search engines.

2.1.2 Procedures

Participants aged 14–21 were included in the criteria since this is the age range included in secondary transition definitions from IDEA 1997 and 2004. SDLMI was the intervention studied and the variables had to be goal improvement, improvement in self-determination or improvement in academic scores. Wehmeyer and Fields (2007) define self-determination skills as autonomy, self-regulated learning, psychological empowerment and self-realization. Setting and attaining goals is an example of self-regulated learning. Articles included were written between nineteen ninety-seven and the present. Nineteen ninety-seven was the first year used since Mithaug et al., (1998) first identified SDLMI as a model in 1998.

2.1.3 Search Terms

The search procedure identified 20 studies that included SDLMI as the independent variable. Two of the studies were not intervention studies, one study examined teacher perceptions of the success of using SDLMI to improve self-determination skills, and the participants in five of the studies were elementary-aged students. The remaining 12 studies included in the literature review are listed in Table 1.

Table 1:Summary of Literature Review

Study	Participants	Design	Settings	Question	Dependent measures	Outcomes
Agran, M., Wehmeyer (2000)	19 students aged 14-21 with ID, SLD, and MD.	Single subject -Delayed multiple baseline across three groups	Job sites, work training sites, self-contained classrooms, general education classrooms	Efficacy of SDLMI improves self-determination and goal attainment.	Transition goals attainment Work, social academic and community living skills	Over two-thirds of the students exceeded expectations of their teachers in relation to goal attainment. 89% of their goals were at or above the expected level of outcome as rated by their teachers.
Agran, et al. (2002)	4 students ages 12 -14 with ID or MD	Single subject-Multiple baseline across participants design (Tawney & Gat, 1984)	Middle school classroom	Effects of self-regulated problem-solving instruction (SDLMI) on specified classroom behaviors of four middle school students with cognitive or developmental disabilities.	Goal attainment - Target behavior related to IEP that they wanted to improve	Mean of 2.3 sessions to attain 80% mastery using the intervention to achieve the goal. All students achieved mastery and maintained scores through maintenance. All students performed higher then expected according to GAS scores.
Agran, Cavin, Wehmeyer and Palmer (2006)	3 students ages 13-15 with ID or ASD- non-verbal	Single subject-Multiple baseline across participants design (Tawney & Gat, 1984)	Junior high Moderate to pervasive support	Effects of SDLMI on academic performance aligned with academic general education curriculum and extended benchmarks.	Academic skills in general education classroom goal attainment	All students increased their performance of target behaviors after SDLMI, all students' maintained behaviors at desired levels. Mary achieved mastery after 10 training sessions with a mean of 67%. Dan's performance ranged from 83% - 100% and Lee's performance ranged from 20 to 80% with a mean of 53%.

Table 1 continued

Study	Participants	Design	Settings	Question	Dependent measures	Outcomes
Agran, M., et al. (2008)	3 students aged 14-15 with cognitive disabilities	Single subject-Multiple baseline across participants design) Tawney & Gat, 1984)	Junior High	Examined the effects of the model on the active participation in class of three junior high school students with cognitive disabilities.	Percentage of occurrence of active participation skills	All students improved their active classroom participation performance and maintained that performance at higher than baseline levels.
Agran, M., et al. (2010)	3 students aged 14-15 with cognitive disabilities	Single subject-Multiple baseline across participants design (Tawney & Gat, 1984)	Junior High – level 2 or 3 support with 3 being most support	Is SDLMI effective in promoting active engagement in the general education classroom, focusing on the student behaviors that contribute to positive achievement outcomes?	Goal attainment of standards based upon IEP goals	All three students demonstrated an increase of performance of the behaviors with average of 80%, 76% and 81% respectively. All students maintained their performance during maintenance, which ranged from one week to five week.
Finn, D., et al. (2008)	15 college aged students with SLD, OHI, EBD, OD, and Deafness	Qualitative group design program evaluation	College	Improve academic success of college students with disabilities	Self-determination skills, effective organization and time management	Qualitative self-reports from 9 participants indicated problem solving was useful, self-monitoring helped them feel empowered. Self-assessment on self-determination skills –2/3 improved self-advocacy, 40% increased understanding of their disability
Kelly and Shogren (2014)	4 high school students with EBD	Single subject-Multiple baseline across participants design (Kennedy 2005)	High school	Improve on-task behavior reduce off-task behavior as a result of SDLMI intervention improve GAS scores.	On-task behavior through goal attainment	Improved on-task behavior and reduced off-task behavior and maintained it after instruction, mastered goals, generalized to a second general education class Improved GAS scores.
McGlashing-Johnson, Jennifer; et al.t 2003	4 students aged 16-20 with moderate to severe ID	Single subject-Multiple baseline across participants design (Richards, Taylor Ramasamy, & Richards, 1999)	Work experiences	Effects of SDLMI on the job performance of students with moderate to severe cognitive disabilities.	Percentage of correct responses in the task analysis for each task	Three students improved their percentage of correct responses after intervention and maintenance. The fourth student was unable to reach his goal of 80% and did not move to maintenance. GAS scores indicated that three of four students performed at targeted levels.
Shogren, et al. (2012)	312 students with a mean age of 16.4 with SLD and ID	Clustered or group randomized trail control group design with switching replication (Murray 1998)	High school students general and special education classrooms	Causal relationship between SDLMI and academic and transition goals, access to GE and different disabilities	Attainment of academic and transition-related goals and access to the general education curriculum.	Significant differences in transition and academic goals that interacted with disability group. GAS scores for LD were higher on academic goals; GAS scores for ID were higher on transition goals. All students improved access to general education

Table 1 continued

Study	Participants	Design	Settings	Question	Dependent measures	Outcomes
Wehmeyer, M. L., et al. (2000)	40 students aged 14-17 with ID, MR and SLD	Field test	High schools	Effect of SDLMI achieve relevant goal and promote student self-determination	Goal achievement Self-determination Locus of control	Mean GAS score was 49.13 (SD=14.063); 25% =50; 30% > 50; 25% between 40 -49 indicating progress; 20% no progress on the goal. Paired sample T tests examining pre/post /ARC were significant (p=. 046). Mean score before instruction 90 and 99 after instruction. Locus of Control pre/post significant (p=. 029) with mean score 15.8 prior to instruction, which dropped, to 14.1 after instruction.
Wehmeyer, et al. (2010)	371 students aged 14 -20 with either LD or ID	Randomized trial placebo control group design	High school	Causal relationship between SDLMI and improved SD scores – used AIR and ARC SD as well as criterion-referenced scores from *Whose Future Is it Anyway*? And Next Step	Self-determination	Students who participated in the 3-year study showed significantly more positive growth patterns that the control group. AIR – all students increased scores over three years with an average 1.3 points per year. Students exposed to SDLMI-increased an average of 3.4 points per year. Students all improved on the SDS those in the intervention group did not improve more than the control group.
Wehmeyer, et al., (2012)	312 students aged 13-21 with ID or SLD	Group-randomized, modified equivalent control group time series design (Murray, 1998)	High Schools	Higher levels of self-determination after exposure to the SDLMI compared	Self-determination	Significant increases in self-determination scores on both the AIR. And SDS. The results suggest that the impact of the SDLMI was the same for the intervention and control groups, even though their exposure to the SDLMI occurred in different years.

2.2 RESULTS

2.2.1 Participants

Participants included transition-aged students and post-secondary students of college age. The ages of the students in all but the college study ranged from 14 to 21. Disabilities identified in the studies were mental retardation or intellectual disabilities (ID), specific learning disabilities (SLD), deafness, emotional and behavior disorders (EBD), multiple disabilities (MD), autism spectrum disorders (ASD), other health impaired and a category labeled cognitive

disabilities. Agran, Wehmeyer, Cavin, and Palmer (2008), and Agran, Wehmeyer, Calvin and Palmer (2006) used the term cognitive disabilities and categorized the students as needing Level II support, limited to extensive support, according to state guidelines. The mean IQ score of students with ID in studies using students with ID was 56 (Agran & Wehmeyer, 2000; Agran et al., 2002; Wehmeyer et al, 2000). The mean IQ score of students with SLD was 84.5 and participants with EBD had the highest IQ scores, which ranged from 89 to 118 (Agran & Wehmeyer, 2000; Agran et al., 2002; Kelly & Shogren, 2014; Wehmeyer et al., 2010). In the seven single-subject design studies, males were represented by a 3:2 ratio. In the remaining studies, approximately 56% of the students were male. Seven studies did not identify the race of the students but in the five studies where race was identified, over 50% of the participants was Caucasian, with African American and Hispanic students each representing about 20% of the sample.

2.2.2 Settings

The settings varied among junior high schools, high schools, and community or work settings depending upon the dependent variables studied. In two studies, the dependent variables were transition goals relating to work (Agran & Wehmeyer, 2000; McGlashing-Johnson et al., 2003). Finn et al., (2008) studied college students in a four-year higher education setting. The remainder of the studies, identified students served in middle and high schools, with at least one class per day in the general education classroom (Agran et al. 2002; Agran et al. 2006, 2008; Agran et al. 2010; Kelly & Shogren 2014; Shogren et al. 2012; Wehmeyer et al. 2000; Wehmeyer et al. 2010; Wehmeyer et al. 2012).

2.2.3 Experimental Design

Several different experimental designs were reported in the research reviewed. Seven studies employed single subject designs using multiple baseline across-participants (Agran & Wehmeyer, 2000; Agran et al., 2002; Agran et al., 2006, 2008; Agran et al., 2010; Kelly & Shogren, 2014; McGlashing-Johnson et al., 2013). Finn et al. (2008); Shogren et al. (2012); Wehmeyer et al. (2000), and Wehmeyer et al. (2010) used group designs. The groups were randomized, except in Finn et al., (2008) where the participants included all the students who responded to the targeted flyer and invitation.

2.2.4 Outcomes

As noted in Table 1, all the studies examined goal attainment using SDLMI. In several single subject studies, students achieved mastery of their chosen goals and maintained the behaviors (Agran and Wehmeyer, 2000; Agran et al., 2002; Agran et al., 2006; Agran et al., 2008; and Kelly & Shogren, 2014). In McGlashing-Johnson et al., 2003, three of the four students with moderate to severe ID met their goals and maintained mastery of the goals. The fourth student was unable to meet the goal or move to maintenance. Finn et al. (2008); Shogren et al. (2012); Wehmeyer et al. (2010); Wehmeyer et al. (2012) also examined goal attainment using group designs. Finn et al., (2008) employed an open-ended survey. The participants indicated that learning to set and achieve goals improved their problem-solving skills, that self-monitoring helped them feel empowered and that about half had a better understanding of their disability (Finn et al., 2008).

In several studies, a Goal Attainment Scale (GAS) was used to measure improvement in attaining goals (Agran et al., 2002; Kelly & Shogren, 2012; McGlashing-Johnson et al., 2003; Shogren et al., 2012; Wehmeyer et al., 2000). Using the GAS, teachers identified an outcome based upon a five-point scale. After the instructional period, the teachers rated the students' outcome on the same five-point scale. Using a raw-score conversion from Cardillo, (1994) the scores were converted to standardized T–scores with a mean of 50 and a standard deviation of 10 (as cited in Wehmeyer et al., 2000). In each study, the students' GAS scores improved. There was a notable difference between students with SLD and ID in Shogren et al. (2012). Significant differences between transition and academic goals were found as goal attainment interacted with disability group. GAS scores for students with SLD were higher on academic goals, while GAS scores were higher on transition goals for students with ID (Shogren et al. 2012).

Improvement in self-determination was measured in three studies using the Self-determination Scale (SDS) and the AIR Self-determination Scale (AIR) (Wehmeyer et al., 2000; Wehmeyer et al., 2010; Wehmeyer et al., 2012). Wehmeyer et al. (2000), was a field test on the efficacy of using SDLMI as an intervention to promote self-determination and achieve relevant goals. The other two studies were randomized group design studies involving over 300 SWD in each study. In all three studies, results indicated significant increases in self-determination scores using both the AIR and SDS.

Wehmeyer et al. (2000) also measured locus of control during the field test to see how students changed after the using SDLMI. Each student completed the Adult version of the Nowicki-Strickland Internal-External Scale (ANS-IE; Norwicki & Duke, 1974) before and after the intervention. Lower scores indicate more adaptive behavior and the difference of the mean before and after instruction was 1.7 points lower.

2.3 DISCUSSION

According to the studies reviewed, SDLMI is a successful strategy for improving self-determination skills, increasing goal attainment of academic and transition goals and improving appropriate behavior. This strategy has been shown to be effective in schools and community-based or work settings. In the field test, Wehmeyer et al., 2000, defined self-determination skills and measured improvement on those skills using the SDS and the AIR. The results supported the potential usefulness of the strategy to improve the self-determination skills. Between the field-testing in 2000 and 2015, the reviewed studies demonstrate that SDLMI can be used to improve goal attainment and self-determined behavior.

The definition of self-determination (Wehmeyer & Field, 2004) includes the concepts of autonomy, self-regulation, psychological empowerment and self-realization. Being able to set goals and achieve them is a type of self-regulated learning. The literature demonstrates that SDLMI assists SWD to attain goals and improve self-determination. Being able to choose goals, create a plan and meet those goals is a type of self-regulated learning, and SDLMI gives students a structure or model to follow.

IDEA 2004 requires that all students with disabilities, who are going to turn 16 years old on their next birthday, have a transition plan developed for them. The plan must include postsecondary goals in education, employment and, where appropriate, independent living. Several studies report that students with disabilities who are self-determined have better outcomes on postsecondary transition goals (Algonzzine et al., 2001; Konrad et al., Shogran et al., 2013).

Students who participated in the studies reviewed generally identified with moderate or severe cognitive disabilities. There are also studies that evaluate students with SLD and EBD.

However, a dearth of research applying SDLMI to improving the self-determination of students with HFA exists. In the few studies where students with ASD are identified, those students also have cognitive limitations. According to the Center for Disease Control and Prevention (2015) the identified population of students with autism spectrum disorders is growing. In 2000, the prevalence was 6.7/1000 and in 2010, it was 14.7/1000. Research on effective techniques and strategies to improve the outcomes of students with ASD is needed.

Studies on the effectiveness of SDLMI cover a variety of variables and types of students. Students with EBD and SLD have some learning deficit characteristics that are like students with HFA however; they are all distinctly different disabilities (IDEA 2004). Horner et al., (2005) suggests five standards for identification of single-subject research as evidence-based practice. One standard states that the evidence is replicable across multiple studies, researchers and participants. Students with a variety of significant disabilities across the transition-aged population have been evaluated without including the growing population of students with HFA Students with HFA are usually in the general education classroom but have difficulty with self-regulated learning, goal setting and problem solving.

2.4 IMPLICATIONS FOR RESEARCH

Researching the effectiveness of strategies that increase self-determination of students with HFA, ADHD, and HFA is warranted, as students are usually fully included in the general education program, yet have difficulty with self-regulation and problem solving. Additionally, the main thrust of SDLMI is to teach the student to choose goals, monitor, adjust, and meet the goals. As a model, SDLMI can be embedded into different content areas. One content area

where students with HFA and ASD appear to have deficits is in workforce readiness skills (Test, Smith & Carter, 2014). Workforce readiness can refer to both hard and soft skills. Soft skills can refer to workforce interpersonal and professional skills such as communication, enthusiasm and attitude, teamwork, networking, problem solving and critical thinking, and professionalism (Office of Disability Employment Policy, 2016). According to a 2008 poll by the Society for Resource Management, critical thinking, leadership, problem solving and adaptability are also important to experienced professionals (ODEP, 2016). Key characteristics of this strategy are that it can be added to curriculum, and that it can be embedded into content area instruction. The literature reviewed demonstrates that SDLMI has improved self-determination, as measured by the SDS and AIR, on students with a variety of disabilities. The literature also provides support for students with disabilities choosing, setting and attaining goals using SDLMI. The literature search did not identify any studies that examined the effect of SDLMI on students with HFA. The lack of evidence does not mean that SDLMI is not effective for this population but that no one has studied the effects on this population. Implementing SDLMI during curriculum instruction is one way of evaluating the effectiveness of SDLMI in improving self-determination of students with ASD and HFA.

2.4.1 Rationale for Study

Understanding the unique combination of needs of students with HFA allows teachers to design instruction to meet the identified deficits. SDLMI is an evidence-based practice identified by National Technical Assistance Center on Transition (NTACT) that improves goal setting and problem-solving skills when taught to students with significant disabilities (NTACT, 2016). Research on SDLMI demonstrates that SDLMI can be integrated into academic and functional

instruction with secondary transition-aged students (Shogren, Palmer, Wehmeyer, Williams-Diehm, & Little, 2012). Since goal setting and problem solving are key characteristics in a common definition of self-determination, integrating the model with teaching a curriculum designed to improve workforce readiness skills in transition-aged students should improve self-determination skills (Wehmeyer & Field, 2007).

The *"Skills to Pay the Bills: Mastering Soft Skills for Workplace Success,"* curriculum (see Appendix M) developed by the Office of Disability Employment Policy focuses on teaching workforce readiness skills to youth with and without disabilities (Office of Disability Services, 2016). Students with ASD or HFA often have skill deficits in working with other people, communicating well, and problem solving. Using this curriculum along with SDLMI may not only improve workforce development skills but also improve self-determination. The participants may be able to learn the skills in isolation but practicing the skills in the community will help with generalization. To investigate the effectiveness of the new workforce readiness curriculum implementation a program evaluation study is planned. The purpose of this study is to evaluate the use of SDLMI and *"Skills to Pay the Bills: Mastering Soft Skills for Workplace Success,"* to improve workforce readiness and self-determination skills of students with ASD and HFA.

- What workforce readiness and self-determination skills the identified secondary transition-aged students with ASD and HFA lack that may prevent them from being successful in employment settings?
- Does the use of the Self-Determined Learning Model of Instruction (SDLMI) to guide workforce-readiness skill instruction, improve self-determination?

- Does integrating SDLMI into the instruction of the *"Skills to Pay the Bills: Mastering Soft Skills for Workplace Success,"* curriculum facilitate student attainment of workforce readiness goals?
- Does practicing the skills, taught in the *"Skills to Pay the Bills: Mastering Soft Skills for Workplace Success,"* curriculum, improve the self-determination and workforce readiness skills needed for competitive employment?

3.0 METHODS

Participants in this evaluation study were secondary transition-aged students at a private school for students with ASD in southwestern PA. The students ranged in age from 14-19 and there were 14 males and 4 females. All students are Caucasian and had diagnoses of ASD. Additionally, some students had diagnoses of ADHD, anxiety, depression, bipolar and one when reevaluated was identified as having an intellectual disability.

Students attending this school complete academic studies individually through an online curriculum. They attend a weekly social skills group, physical education, and some of the students are involved in community-based learning. The students have transition goals to improve workforce readiness skills listed in IEPs. To date, according to the principal, finding time within the students' programs to provide instruction on these skills has been limited. The students work individually on online academic units and have not had much direct instruction on workforce readiness skills except for pre-vocational tasks in-house or with some students, in the community. The students participate in community-based vocational experiences and the transition coordinator meets with the students for assessment and periodic instruction on workforce readiness. A newly designed Extended School Year program and follow up programming in the fall of 2016 increased the chance for new group and community-based instruction on workforce readiness.

3.1 PARTICIPANTS

From the available population, a sample of students was recruited. The requirements for study were students who had postsecondary goals of competitive employment with or without support. After receiving IRB approval, (Appendix A.) information on the study was shared with parents and students at the WISCA open house before the school year started. Additionally, an informational letter and consent form was sent home to all the parents of students who met the identified criteria of being of transition age, had a diagnosis of ASD and had postsecondary goals of competitive employment with or without support (see Appendices F and G). Parents of 18 students were contacted and nine of those parents returned consent forms (see Table 2). Since the students could assent to the process the researcher then met with the students to explain the study. The researcher shared with the students that although their parents had given consent, they could still decide not to participate. Several students questioned this, telling the researcher that if their parent said that they should participate then they would have to participate. The researcher took this opportunity to explain that making choices based on the given information was part of being self-determined and if they did not want to participate their teacher or social worker could assist them in sharing that information with their parents. As part of the study, a participation gift of $25.00 presented in a cash gift card was given to each student who completed the study. If a student dropped out of the study, they received a gift card for $12.00.

All nine students who attended the session took the assent letters with them and ultimately, six students decided to participate. The sample consisted of five males and one female. During the study two male students dropped out because they transferred to a different school.

Table 2: Participant Demographics

Participant Demographics

Gender	Age	Diagnosis	Race	IQ
F **	16	ASD, BI-POLAR	C	82/65
M**	16	ASD GIFTED	C	152/136
M*	15	ASD, ADHD	C	87
M*	18	ASD, ADHD,	C	119
F	15	ASD, ADHD	C	103
F	15	ASD	C	115
M	18	ASD	C	114
M**	17	ASD, GIFTED,	C	132
M**	15	ASD	C	96

Note: * participants at start of study ** completers

3.2 SETTING

The school was in a small town adjacent to the city of Pittsburgh and served students with HFA who require therapeutic supports not delivered in a traditional setting. It was one of four centers of the school, which also had approved private school programs for students with more significant disabilities. According to 2014-15 enrollment figures for the Center, 36 secondary students were enrolled and 40.8% belonged to families with low income. Instruction in SDLMI and "Skills to Pay the Bills: Mastering Soft Skills for Workplace Success," (See Supplemental Materials) took place in a classroom in the building. All parents and guardians are Caucasian, reside in three counties in southwestern PA and live in rural, suburban and urban settings. The staff is 90% female and Caucasian.

3.3 MATERIALS

"Skills to Pay the Bills: Mastering Soft Skills for Workplace Success," is a curriculum written and piloted by the Department of Labor. The curriculum was developed to introduce the basics of soft skills to students who are between 14-21 (Office of Disability Services, 2016). Soft skills refer to a broad set of skills, competencies, behaviors, attitudes, and personal qualities that enable people to effectively navigate their environment, work well with others, perform well, and achieve their goals. These skills are broadly applicable and complement other skills such as technical, vocational, and academic skills (Lippman, Ryberg, Carney & Moore, 2015, p.4).

The curriculum consists of six units of study with suggested activities and extensions. The soft skills areas are: communication, enthusiasm and attitude, teamwork, networking, problem-solving and critical thinking, and professionalism. In this study, lessons were drawn from communication, enthusiasm and attitude, teamwork and the problem-solving and critical thinking units. These units reflected the needs of the students as measured in the student summary. The summaries compiled information from the students' IEPs, Transition Assessment and Goal Generator (TAGG) (Martin, Hennessey, McConnell, Terry, & Willis, 2015) and ARC SD Scale scores (See Appendices D and E). The students all admitted to having trouble communicating and solving problems and present levels in the IEP identified the lack of motivation and enthusiasm unless it was an area of preferred interest.

The second set of materials used was the Self-Determined Model of Instruction Teacher's Guide (Wehmeyer et. al., 2009). The PI used this guide to facilitate the use of SDLMI to improve goal setting and problem solving (see Appendix M). A set of three worksheets was adapted from this guide to meet the communication needs of the students (See Appendix H).

3.4 PROCEDURES

The program was implemented during the fall semester of 2016. Instruction occurred during two scheduled classes each week from September to December for a total of 20 classes. The impetus for program development was staff-identified skill deficits of this group of students in this setting. Formative and summative evaluation tools were appropriate in this case since the tools were used to guide program development and to evaluate effectiveness (Mertens & Wilson, 2012). Information from interviews and observations allowed the evaluator to identify the stakeholder needs for the program and using tools of process evaluation allowed the evaluator to determine what was useful and helpful in the process. Summative evaluation examined the effectiveness of using SDLMI and "Skills to Pay the Bills: *Mastering Soft Skills for Workplace Success*," to improve self-determination, goal attainment and workforce readiness skills.

Before the commencement of this study, the principal investigator participated in an internship at this site. The principal investigator observed meetings where the agenda discussed changing and adding to the transition services for the students in all the schools' programs. Out of those meetings came a goal to find ways to improve workforce readiness skills for transition-aged students at the private school site.

The principal investigator met with the transition coordinator, program director and chief operating officer and it decided to start by implementing instruction in workforce readiness skills since those had been identified as deficits through transition assessments. The study was run from September to December of 2016.

3.4.1 Sample

After receiving IRB approval, the PI met with the principal and teachers to identify students who match the inclusion criteria. All the students who were between the ages of 14-19 and had at least a diagnosis of autism spectrum disorder met the inclusion criteria. In addition to the participation stipend, it was decided with sending school district permission that students who participated and completed the instruction would earn .5 credits on their transcripts for a transition class. The teachers at the open house distributed information explaining the study before school opened and then that same information was mailed and emailed home to each parent/guardian during the first week of school. (Appendix F).

3.4.2 Instruction

The instruction, based upon *"Skills to Pay the Bills: Mastering Soft Skills for Workplace Success,"* (ODEP, 2016) occurred during 45 minute lessons twice a week in the fall. The curriculum included activities designed to get young people thinking about, practicing, and discussing skills important to career and personal success. SDLMI is an instructional strategy designed to work within any curriculum. The students identified a goal on which to work and then the second and third phases of SDLMI were integrated into the ongoing instructional curriculum. The students completed 20 lessons (see Figure 2). The first two lessons did not come from the *"Skills to Pay the Bills: Mastering Soft Skills for Workplace Success"*. Instead the PI did a lesson on rules for group discussions using the rules that were used in their Peace Club meetings. The objective of the second lesson was to see what the students knew about their disabilities, strengths and limitations. Then results of their ARC SD scale scores were reviewed.

The results are presented in a bar graph format, which made it easy for the students to read. The students also read and discussed the summary of TAGG results and the goal generator summary from the survey.

	Unit of study	Lesson Goal
1	Discussion and consent	
2	Identify and advocacy	SDLMI identify strengths and needs
3	Identify and advocacy	SDLMI identify goal using worksheets
4	Identify and advocacy	Complete and discuss part 1 of SDLMI
5	Communication	Receiving and giving specific communication
6	Communication	Using different types of communication in different contexts
7	Communication	How others interpret verbal and non-verbal communication
8	Communication	Importance of two-way communication
9	Enthusiasm and Attitude	Power of positive mental attitude
10	Enthusiasm and Attitude	Failure isn't something to fear and is often necessary step for success
11	Enthusiasm and Attitude	Differences between positive and enthusiastic attitude and a negative -
12	Enthusiasm and Attitude	How enthusiasm can help you get a job
13	Enthusiasm and Attitude	Identify, and explain positive personality traits- and how to communicate them to an employer
14	Problem-solving Lesson	Praise, criticism or feedback/differences and how to offer it and receive it
15	Problem-solving Lesson	Understanding how to make ethical decisions on the job
16	Problem-solving and Critical Thinking	Explore how effective teams solve problems that occur among the members
17	Problem solving and Critical thinking	How to consider different perceptions and how to make decisions based upon those perceptions
18	Problem-solving and Critical Thinking	Using STAR strategy to answer interview behavioral questions
19	Teamwork lesson	Elements of teamwork what makes a team work
20	Teamwork lesson	Understanding how team work is managed on the job from both the boss and worker perspectives

Figure 4: There is a list of the units of study and the objective of the lessons

After looking at all the information the PI asked the students to decide on a goal that was meaningful to them and that they wanted to work on. The goals that the students identified through the SDLMI process involved improved communication and problem solving skills. Using the identified goals, the PI implemented instruction during the fall, teaching the participants how to use SDLMI to improve goal attainment.

Five of the six students identified goals. One male student who exhibited oppositional behavior refused to identify a goal and work through the worksheets. However, his teachers shared that he was working on improving his ability to follow the rules for the technical school that he wants to attend next year. So, even though he refused to complete the SDLMI worksheets, he did work on mastering that goal throughout the class. The lessons all were laid out with objectives, time, materials, directions and conclusion and they offered a journaling activity. At the beginning of each week the PI reviewed the students' self-monitoring data on the goal, discuss progress and planned for the next steps. Phase two of the SDLMI strategy included questions for the student to answer (Appendix H). Those questions guided the student to identify what they didn't know, how they could learn what they didn't know, when they could work on the goal and what to do if they weren't making progress. If they were not making progress, the group discussed possible solutions. Then the lessons started with a set of questions from the new lesson to elicit the knowledge the students had on that topic. Since the curriculum was developed through a universal design approach, there was little required reading, the information was presented in multiple ways, and allowed the students to respond verbally, in writing or through acting or drawing. The PI facilitated the instruction through discussion, activities, role-play, and short lecture and journal responses. The participants actively participated in the lessons. At the beginning of the first class each week, the PI reviewed the SDLMI goal of each

student and discussed the student's progress on the goal. Some students worked on their goal with their teachers outside of the class and two students worked on the goal at home and school.

3.5 DATA COLLECTION

Table 3 is a graphic organization of the research question, design, evidence and plan for analysis.

Table 3: Data Collection Plan

Research Questions	Design or method	Evidence	Analysis
What workforce readiness and self-determination skills the identified secondary transition-aged students with ASD and HFA lack that may prevent them from being successful in employment settings?	Summarize	IEP present levels, Transition goals, TAGG, ARC SD	Identify workforce readiness deficits
Does the use of the Self-Determined Learning Model of Instruction (SDLMI) to guide workforce-readiness skill instruction, improve self-determination?	ARC SD scores	Raw and percent post positive scores ARC SD Scale	Descriptive analysis
Does integrating SDLMI into the instruction of the *"Skills to Pay the Bills: Mastering Soft Skills for Workplace Success,"* curriculum facilitate student attainment of workforce readiness goals?	Goal Attainment Scale of SDLMI Goal, TAGG goals	GAS form	GAS results Likert scaled scores compared Student Likert TAGG scores compared
Does practicing the skills, taught in the *"Skills to Pay the Bills: Mastering Soft Skills for Workplace Success,"* curriculum, improve the skills needed for competitive employment?	Triangulate qualitative and quantitative data	TAGG, journal prompts, ARC SD, staff survey	Themes identified relating to workforce readiness and self-determination

3.5.1 Student Composites

Research question 1 : What workforce readiness and self-determination skills the identified secondary transition-aged students with ASD and HFA lack that may prevent them from being successful in employment settings?

To identify the workforce readiness skills that students with HFA were lacking, the PI examined the present level information on each student in the study and summarized it (Appendix D and E). The student composite used student IEP information from Sections II- Present levels of Academic Achievement and Functional Performance, Section III – Transition Services and Section V- Goals and Objectives (PaTTAN, 2017). The PI identified words associated with self-determination from Wehmeyer, Agran & Hughes, (2001) and from the TAGG constructs (Martin, et al., 2015). The terms from Wehmeyer et al., (2001) included: autonomous functioning, self-regulation, psychological empowerment, self-realization, decision-making skills, independent living, risk taking and safety skills; self-advocacy and leadership skills; positive self-efficacy and outcome expectancy; self-understanding, problem-solving skills, goal-setting and attainment skills; internal locus of control; choice-making skills, self-observation, evaluation, and reinforcement skills, self-instruction skills, and self-awareness. The constructs from the TAGG, which is an online transition-assessment goal generator included: identifying strengths and limitations, disability awareness, persistence, interacting with others, goal setting and attainment, employment experiences, involvement in the IEP and support from the community (2015). The results from the two transition assessments, ARC SDS and the TAGG were also examined for identified workforce readiness and self-determination skills deficits. The transition assessments involved self-report, and the IEP goals were generated by the IEP team, which together created a holistic view of each student's present levels in a variety

of areas. The composites were used to help the participants choose goals and drove the instruction during the class.

3.5.2 Transition Assessments

Research Question 2: Does the use of SDLMI to guide workforce-readiness skill instruction, improve self-determination?

The TAGG and the ARC SDS (Appendix B) were self-report transition assessments whose data was also used in research question two. The TAGG and ARC SDS were administered individually to all students prior to the study as part of transition assessment for their IEPS. The TAGG student version assessed across seven constructs: student's strengths and limitations, support from the community, disability awareness, persistence, student involvement in the IEP, interacting with others, goal setting and attainment, and employment experiences. Students names were entered by the teacher on the website and then students were instructed to answer the questions by either reading and choosing an answer, or by clicking on the audio-recording of the question, listening to it and then choosing an answer. The scores were automatically generated when the student finished the assessment. A report for each student was generated. This report identified the student selection on the 8-point Likert Scale for each of the seven transition skills areas and then created a summary and suggested student goals.

The ARC SDS has four subscales: autonomy, self-regulation, psychological empowerment, and self-realization and a total self-determination score (Wehmeyer, 1995). The assessor read the directions for each section and then the student to completed that section. When requested by the student the assessor read the prompts and/or acted as a scribe. Both instruments were completed in a one-to-one setting to monitor completion and to provide specially designed

accommodations e.g. reading aloud, use of a scribe, and breaks. Scoring for the ARC SDS was completed using the scoring guide, which resulted in raw scores, normed percentile scores and student percent positive scores (see Supplemental Materials). The ARC SDS had a graphic representation of the scores to assist in interpretation (Appendix B). The student pre-and post-assessment scores on the ARC SD Scale were compared using both raw scores and student percent positive scores to examine whether using SDMI during workforce readiness increase self-determination skills in the students.

3.5.3 Goal Assessment Scales

Research question 3: Does integrating SDLMI into the instruction of the "Skills to Pay the Bills: Mastering Soft Skills for Workplace Success," curriculum facilitate student attainment of workforce readiness goals?

Once the individual profiles were completed, each participant identified the self-determination and/or workforce readiness goal on which to work during the second lesson. The PI shared the ARC SDS graphic representation of their assessment scores, along with the TAGG summary and the IEP information with the students. The PI explained each piece of information and the students reviewed the results. At the end, each student met individually with the PI and chose a goal that they were interested in working on. The goals all came from a deficit area. Student A chose a goal to be able to initiate and complete telephone conversations with customer service representatives or appointment schedulers. Student A's IEP information and transition assessments identified difficulty planning for conversations that did not necessarily follow as he planned. Student B wanted to work on a goal identified in his IEP, which was to increase his efficiency at answering questions directly. Student C refused to go through the worksheet

process but wanted to work on an identified IEP goal, which involved improving rule following and decreasing the use of profanity. Student D asked to work on improving her reciprocal conversation skills, which were also an identified deficit in her IEP. Then the students were given the first worksheet from SDLMI (Appendix H) and together with the PI completed the process to identify what goal they wanted to work on and what they did and didn't know about achieving the goal. The worksheet guided them through the process. Since each student had average to above average reading skills, each student attempted to fill in the answers to the questions and then the PI reviewed it with them and facilitated the student completing the worksheet in the areas that they had problems. Student A had difficulty completing the worksheet until he discussed each question with the PI. Then he verbally stated what he wanted written for each question.

The PI then completed the GAS form (Appendix L) with the students (Carr, 1979; Kiresuk, Smith, Cardillo, 1994). This occurred in October during the fourth class. The GAS was designed for the participant to choose a goal and then a teacher who is familiar with the student identifies the likelihood of the participant achieving the goal using a five-point Likert scale. The scale is numbered from (-2) through (2). (-2) indicates that the participant is very unlikely to meet the goal, while (2) indicates that the student is likely to achieve the goal (Carr, 1979).

3.5.4 Student Journal Responses

Research question 4: Does practicing the skills, taught in the "Skills to Pay the Bills: Mastering Soft Skills for Workplace Success," curriculum, improve the skills needed for competitive employment?

One component of the evaluation was for the participants to reflect in a journal using prompts provided at the end of certain lessons. Participants were asked to reflect on instruction in workforce readiness and self-determination in a journal. Prompts came from seven lessons in *"Skills to Pay the Bills: Mastering Soft Skills for Workplace Success"* (Appendix I*).* The protocol for this assignment allowed the students to write, draw, or audio record the information (Mentor, Hulme, Lewin & Lowden, 2011). Each participant was given the journal prompt at the end of class. All the students except one either wrote or typed their responses. Three of the students took their copy of the prompt with them and returned them at the next lesson. Student A dictated his responses to the PI or used Dragon Dictate and then edited his answers on his computer. The journal responses were coded looking for themes or the use of the self-determination elements. Given the difficulty with communication and memory for students with HFA, the principal investigator grounded these prompts in situations to help the students remember the instruction that occurs.

To analyze the journal prompts for elements or characteristics of self-determination skills, a chart from Wehmeyer, Agran and Hughes (2001) was used to develop a coding procedure (Saldaña, 2016). Each characteristic or element of self-determination was defined and instructions for coding were written (Appendix K). The definitions of the characteristics and elements came from *Teaching Self-determination to Students with Disabilities: Basic Skills for Successful Transition (2001).* The student responses were all copied into a word document and organized by journal prompt and color-coded so that each student's response was separate. The two coders, independent of each other, read through the journal responses and underlined each phrase that they felt was an example of one of the characteristics or elements. Then, using the abbreviations in the coding document, they wrote down every code that they felt matched that

phrase. Multiple codes could be identified for each phrase that was identified. The first coder identified 70 phrases and the second coder identified 62, but they were all the same ones identified by the first coder. The two coders reached 89% agreement on the type of SD elements for each phrase. After the initial coding, the two coders met and discussed the eight phrases additional phrases identified by the first coder. They agreed to remove three of those phrases as not examples of SD elements. At that point, the inter-rater agreement on the types of statements identified and their meaning was 90%. Then the types of elements identified were grouped by frequency and similarity.

3.5.5 Staff Survey

After completion of the 20 lessons, the staff of each student was asked to complete a survey (Appendix C). The questions in the survey reflected the goals of the SDLMI self-determination elements and the workforce readiness curriculum of the class. It was a Likert Scale survey, which also allowed for a "don't know" option. Teachers, teaching assistants, social workers, the behavior specialist and the job coach were all given surveys to complete. Since the students were not all in the same class, different people completed the survey for each student. Student D was hospitalized for 10 days in October and then transferred to another classroom in late November. Her parents removed her from the school in January. Neither teacher felt that they knew her well enough to complete the survey so the two social workers and the behavior specialist were the ones who completed her survey. The other three had five respondents.

The survey results, the themes from the student journal responses, and the transition assessment data were examined together, looking at the data from multiple perspectives to assure the validity of the data on this last research question.

4.0 RESULTS

The organization of this chapter follows the research questions that guide this dissertation. Each section addresses questions on workforce readiness skills, self-determination and instruction to improve the two skills sets in adolescents with HFA. The first section examines the student needs identified on the student's IEP and two self-report scales. The second section examines whether the use of SDLMI to guide workforce-readiness skill instruction, improved self-determination. The next section examines whether integrating SDLMI into the instruction of the *"Skills to Pay the Bills: Mastering Soft Skills for Workplace Success,"* curriculum facilitated student attainment of workforce readiness goals using the GAS and the TAGG assessment information. The last section provides an analysis of student journal prompts, staff survey information and the post assessment results of the ARC SDS. Six students started the study and four completed it. Two of the male students dropped out of the study in October after moving to another school for personal reasons. The rest of the students participated in all elements of the study.

4.1 WORKFORCE READINESS SKILLS

Research question 1: What workforce readiness and self-determination skills the identified secondary transition-aged students with ASD and HFA lack that may prevent them from being successful in employment settings?

There are many skills needed for students to succeed in the workforce. Many are the skills identified by Wehmeyer et al, (2001) as characteristics and elements of self-determination. Additionally, soft skills such as communication, teamwork, critical thinking and problem solving are critical for successful employment (ODEP, 2016). According to the information compiled from the student IEPs, the students lacked skills in communication, motivation, problem solving and self-regulation.

4.1.1 Compiled IEP Information

Each student's IEP was read and pertinent information on transition skills from the present levels and transition grid was summarized (see Appendix E). Student A, diagnosed as gifted with HFA, had difficulty attending to non-preferred tasks, staying motivated, and did not accept feedback or criticism well. He struggled with reading non-verbal cues, engaging in reciprocal conversation and often over explained details and got upset if a teacher attempted to stop his explanations. Student B, a student with ASD and ODD, had low average ability. He required one-to-one assistance on academic tasks, frequent redirection, and had difficulty being respectful to others and staying safe. He did well learning hands-on tasks and had a particular-interest and matching skills set to work in auto mechanics. Additionally, he needed to improve coping skills to regulate his emotions. Under parent concerns in the IEP it was noted that the

student could misinterpret what others said and become angry due to his difficulty-understanding people,

Student C, a student with above average ability, had HFA and generalized anxiety disorder that affected his self-regulation and coping skills. This student did best when he knew what to expect in advance, and had below average social skills especially in communication. Student C had difficulty with empathy and engagement and perseverated on his negative aspects instead of developing and implementing plans to solve the problems. Due to his anxiety, he had difficulty identifying his needs and deciding when he needed assistance with planning and organization. Student D was a young woman identified as having ASD, being bi-polar and recent psychological-testing identified her as having a mild intellectual disability. This student had significant communication difficulties with language pragmatics, reciprocal conversation and age-appropriate conversation with peers. Student C had difficulty identifying and maintaining socially-appropriate social skills, which included not understanding boundaries between friends, lying, and identifying social cues from others. She also needed to improve her coping skills when angry.

In summary, these students lacked skills in communication, motivation, problem solving and self-regulation. Table 4, is a summary of phrases from the present level and needs sections of the students' IEPs. They are grouped into the areas of communication, problem solving and goal setting, self-regulation and motivation and advocacy.

Table 4: Summary of IEP Present Level Statements for Participants by Category

Workforce Deficit & Elements of Self-determination	IEP statements
Communication skills	Difficulty maintaining conversation with peers Reading and responding to social cues, improving social skills, pragmatics, can be socially inappropriate Misinterprets what others are saying and become angry Has difficulty with being respectful of others and safe. Maintain personal space, Speak without using profanity Below average social skills cores in communication, empathy, engagement. Give a direct answer without overstating details and information
Problem-solving, goal setting	Heeds to develop and implement a plan to solve a problem without perseverating on the negative aspects of it,
Self-regulation/motivation	Multi-step projects difficult to understand and needs them broken down into very specific checklists. Needs to seek help without work refusal when frustrated Difficulty building coping strategies to help regulation of emotions Frequent re-direction, Attending to non-preferred subject – Sarcastic doesn't want to follow directions Argues, does not accept criticism, off task Trouble accepting, valuing and adapting expectations, Needs prompting to initiate, Not internally motivated,
Advocacy	Improve self-advocacy skills,

4.1.2 Compiled ARC SDS Results

Raw and percent positive scores are compiled from student responses on the ARC SDS. Percent positive scores are described in the ARC SDS scoring guide as follows: "The individual percent positive scores indicate the percentage positive for each domain. The total points available for the *Autonomy* domain is 96. A student who scored a 72 will have a 75% positive score conversion where a score of 96 reflects 100% positive and 0 indicates 0% positive" (Wehmeyer, 1995, p.115). In other words, the student's raw score in each section is converted to

a score out of 100 so that each subscale can be compared. The percent positive scores from the ARC SDS assessment before instruction occurred are shown in Table 5. Autonomy and Self-regulation scores all fell below 65%. The questions in the autonomy section, as noted in Chapter 3, gauged the student independence on different tasks (see Appendix B) and the self-regulation subsection is the section where students answered question related to cognitive problem solving and goal setting.

Table 5: Student Percent Positive Scores (ARC SDS)

Categories	Student A	Student B	Student C	Student D
Autonomy	45	55	31	47
Self-regulation	57	52	62	62
Psychological Empowerment	88	75	31	75
Self-realization	93	67	47	53
Self-determination	57	58	37	53

Student A had scores of 88 on psychological empowerment and self-realization, which were 13 to 40 points higher than the other students. His scores in autonomy, self-regulation and total self-determination were close to 50. Student B's highest score was in psychological empowerment and his lowest score was in self-regulation. However, all his percent positive scores fell in the midrange between 52 and 75. Student C scored much lower than his classmates in autonomy and psychological empowerment with scores of 31. His highest score was 62 in self-regulation or the ability to solve problems and set goals. Student D's highest score was 75 in psychological empowerment or perceived control over self and motivation, while her scores were close to 50 in self-regulation and self-realization. Overall the four students had a wide range of scores with a few outliers. Student A's scores on psychological empowerment and self-

realization were above 85% and Student C had very low scores in three section. These scores are comparable to the information given in the present levels for each of the students in their IEPs.

4.2 IMPROVING SELF-DETERMINATION

Research question 2: Does the use of SDLMI to guide workforce-readiness skill instruction, improve self-determination?

The ARC SDS (see Appendix B) was administered the first time in September and then again in January after the end of instruction. This instrument had four subscales and an overall self-determination score. Raw scores, normed percentile scores and percent positive scores could be calculated for each subscale. Each subtest has a different item type (e.g. Likert scales, open-ended questions, forced choice) but higher scores indicate that the student manifests greater self-determination scores in each area. Since the workforce readiness instruction did not focus on autonomy skills the subscales that were of interest to this study were self-regulation, psychological empowerment and self-realization. The students stated that some questions on the autonomy subscale were difficult to answer because the questions assumed that the participant was in a public-school setting with clubs and sports. Since these students are in a private school setting with online instruction, they were unable to respond to several questions. Two students, A and C improved their scores in autonomy, while the other two students' scores between the pre-and post-assessment.

Table 6 contains the students' pre-and post-assessment raw scores in each subsection. Student A improved his scores in all subsections of the assessment. He improved 8 points in self-regulation and a total of 27 points overall in self-determination skills. Student B showed

improvement in all subsections except autonomy and increased his score by an average of 4 points on the other subscales. Student C made gains in each subsection with the largest gain being in overall self-determination, where he gained 37 points. Student D's scores improved or stayed the same except for autonomy, where the score fell 4 points.

Table 6: ARC SDS Raw Scores Pre-and Post-Administration

Categories	Student A Pre	Student A Post	Student B Pre	Student B Post	Student C Pre	Student C Post	Student D Pre	Student D Post
Autonomy	43	60	53	49	30	47	45	41
Self-regulation	12	20	11	16	13	20	13	19
Psychological Empowerment	14	16	12	14	5	15	12	12
Self-realization	14	15	10	14	7	10	8	10
Self-determination	84	111	86	93	55	92	78	82

4.2.1 ARC SDS Self-Regulation

The self-regulation section was divided into interpersonal cognitive problem solving and goal setting and task performance. In the total raw scores for self-regulation all four participants exhibited an increase in scores. The average across all four participants improved 6.75 points from 12.25 to 18.75. Student A's raw score improved eight points, Student B improved four points while Student C and Student D each improved six and seven point, respectively.

The answers in the interpersonal cognitive problem-solving subsection of the self-regulation subscale improved in the quality of the solution to solving the problem. The scoring rubric provided examples that would earn scores at three points from zero to two (see Appendix K). The responses to this section were open-ended and asked the student to state a way to solve a given problem. All students except Student D improved their solution to the given problem, and while student D scored higher in the initial assessment than the other students and her score remained the same when re-assessed. Students A and B gained six points, and Student D gained three points. Since these were open-ended items and the scoring could be subjective the PI had this section scored by a second scorer to check on inter-rater reliability.

A second person was given directions on scoring, a copy of the scoring rubric from the ARC SDS scoring manual (see Appendix K) and asked to rescore this subsection. The scores from each scorer, the PI and the second scorer were then compiled and totaled for items where the scorers agreed and disagreed on the scores. The total number of scores divided the number of times the scorers agreed. An inter-rater reliability quotient of 83% was reached between the two scorers.

These two subsections, interpersonal cognitive problem solving and goal setting and task performance reflect the SDLMI procedures used during the study. The interpersonal cognitive problem solving required the students to identify the problem and create a way to solve the given problem. For example, Student A, before instruction on using SDLMI, was given this situation: "You hear a friend talking about a new job at the local bookstore. You love books and want a job. You decide you would like to work at the bookstore." The first time he completed the assessment, he said,

"I would determine how to get an interview. This being done, I successfully get the job."

His answer after instruction from the SDLMI instruction and the transition class was:

> "First you check to see if there are available positions. Find out how to get an interview. Gather information together. Get dressed up, go for the interview and hopefully get the job."

Another example of improvement comes from Student C. The situation posed was, "Your friends are acting like they are mad at you. You are upset about this." Before instruction, student C answered,

> "Tell them the way it is. If they don't like it, leave."

After instruction the same student stated,

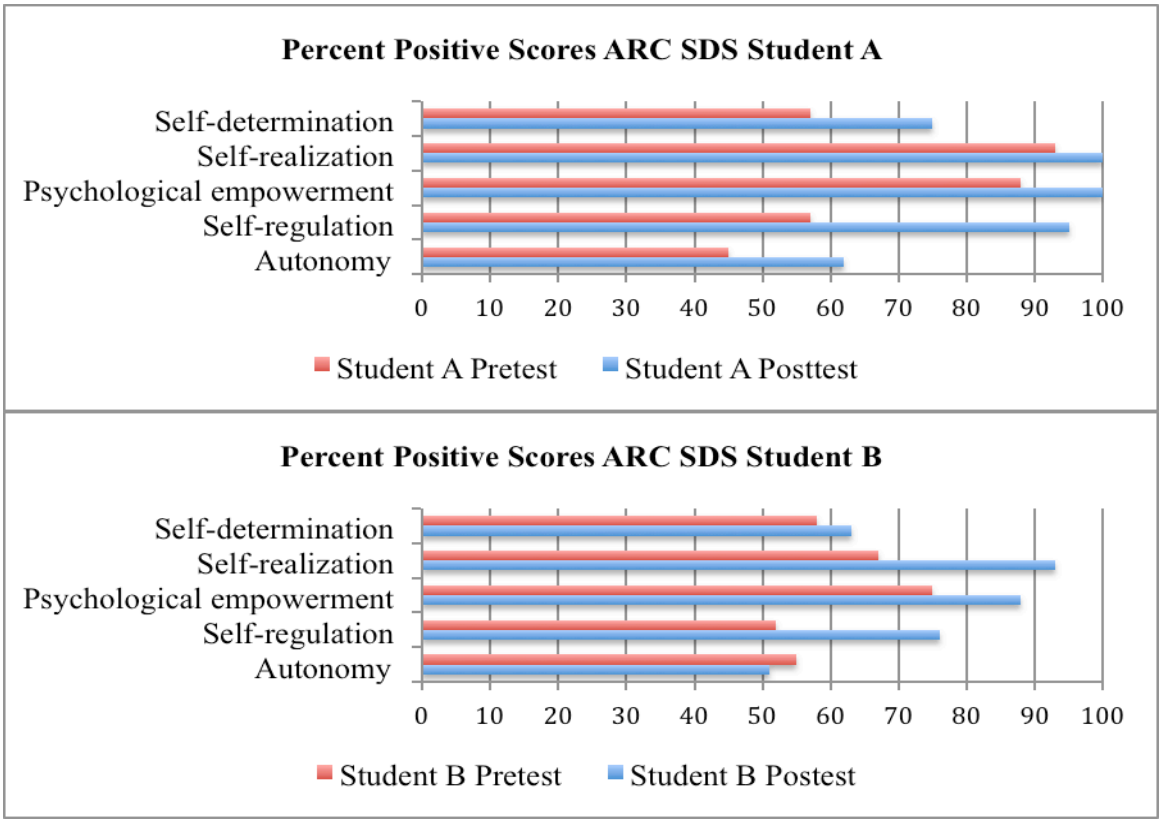
> "Talk with them and sort it out. Apologize if I did something wrong."

In both examples the student identified the barrier to mastering the problem and gave steps to solve the problem or the situation when they completed the assessment the second time.

The second subsection of the self-regulation scale was goal setting and task performance. The students were asked about their own goals for where they would live, work and how they would travel. The average increase in raw scores in this area was 2.75 points, which was notable given that there were only nine points in the section. Students A, B and D had no plans for employment initially, however, post instruction when they completed the ARC SDS they listed a goal and three objectives to master that goal. Student C stayed the same between the two administrations of the assessment however he started with a stated goal and some objectives in the pre-assessment and that didn't change. The largest change between administrations was observed for Student C. During the pre-assessment, this student did not demonstrate knowledge for setting goals for independent living or employment. On the follow-up assessment, he

identified goals for all three sections: independent living, employment and transportation and listed the steps needed to achieve those goals.

Another way to examine the student growth in self-regulation was using the percent positive scores. As noted in section 4.1.2 percent positive scores are the converted raw scores that can be compared between subsections and students. In Figure 3 each student's percent positive pre-and post-assessment scores are depicted using bar graph. In the self-regulation section the students all improved their scores. Student A had a 67% improvement from 57 to 95; Student B improved 46% from 52 to 76; Student C demonstrated a 53% improvement from 62 to 95 and Student D improved 45% from 62 to 90. This is another way to demonstrate a notable change in scores in self-regulation (cognitive problem –solving and goal setting) for all students.



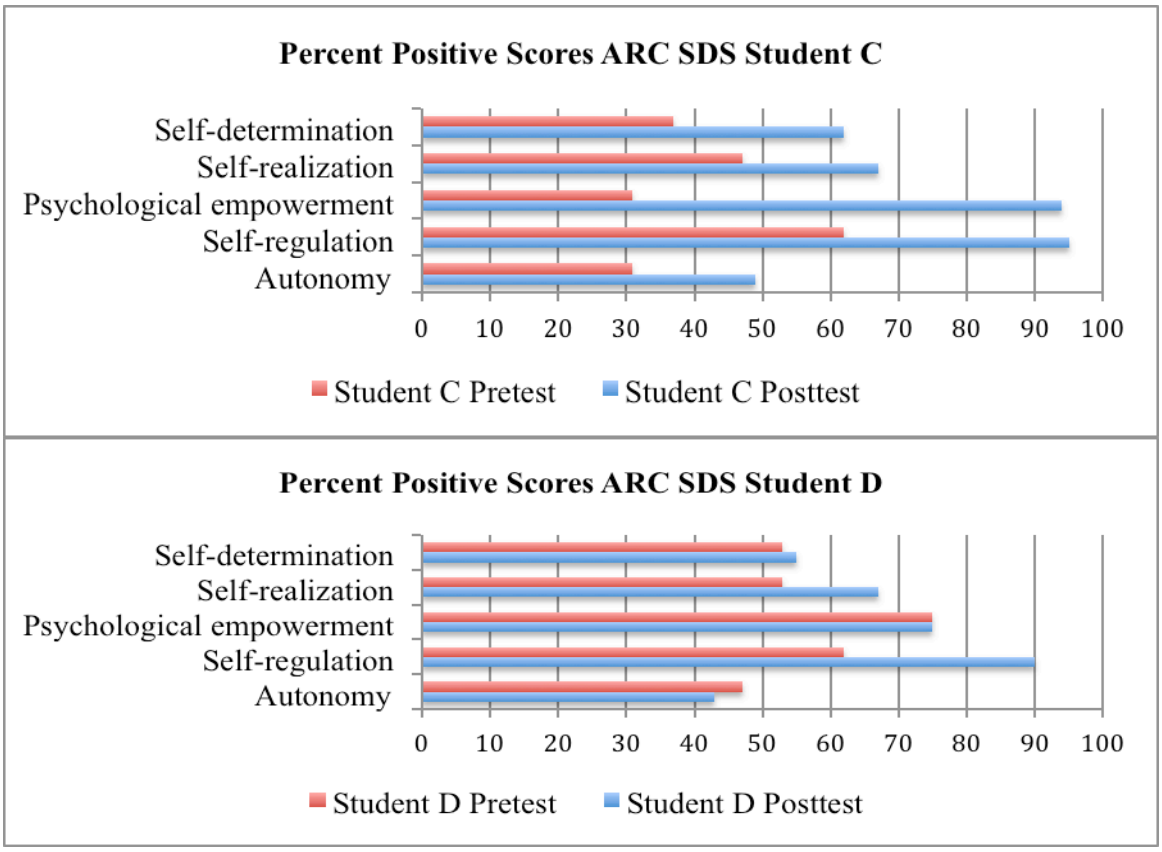


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Figure 5: Pre-and post-assessment percent positive scores

The graphs are for the ARC SDS subsections for each student.

4.2.2 ARC SDS Psychological Empowerment Results

Psychological empowerment is defined as the multiple dimensions of perceived control including locus of control, cognition, and motivation, (Wehmeyer et al., 2001). With one exception, student scores on the initial assessment fell in the upper range of the score distribution limiting the amount progress that could be obtained. Thus, the gains in the post-assessment were not as large. However, Student C who started with a low score of 5, improved his scores from by 10 points. Students A and B improved their scores by 2 points. Student D stayed the same at 12.

The increases observed in percent positive scores for psychological empowerment for student A and student B were 14 and 17%, respectively, while Student D showed no improvement. Student C improved 203% as the initial percent positive score was 31 and the score from the second administration was 94. In the initial assessment being unfamiliar with the PI who was administering the assessment, Student C presented with visible anxiety as he completed this section of assessment. He stated that he didn't want to be critical of himself. During the 10 weeks of instruction he developed rapport with the PI and became actively involved in class discussions. Since this is a section that measures locus of control, motivation and cognition, the improvement in his scores might reflect changes in this area, post instruction.

4.2.3 ARC SDS Self-Realization Results

The next section of the assessment evaluated student self-realization, which is the trait of knowing and having a reasonably accurate knowledge of oneself and one's strengths and limitations in such a way as to act and capitalize on that knowledge (Wehmeyer, 2001). All showed improvement in this area. Again, Student C improved his score more than the other three students. He scored a 7 initially and a 10 on the post assessment. This was represented in percent positive scores as a 43% gain from 47 to 67. It may be indicative of growth in self-knowledge as the content of the class worked to improve this knowledge of strengths and limitations. Student A improved his raw score one point from 14 to 15 and Student B increased his raw score from 12 to 14. This gave Student A an increase of an 8% percent positive score and Student B an increase of 39%. Student D raw score increased from eight to ten, which in percent positive scores was a 26% increase.

4.2.4 ARC SDS Total Self-determination Scores

The final section of the ARC SDS reported a total self-determination score, which was based on the 148 items on the assessment. The average raw score of the four participants on the first administration in September was 75. On the post-assessment it rose to 98.7, which is an overall improvement of more than 20 points.

The top row of the bar graph for each student in figure 4 indicates the changes in percent positive scores for each student on total self-determination. Student A improved 18 points bringing his percent positive score to 75. Student B improved five points from 58 to 63 and Student C showed the most improvement, going from a percent positive score of 27 on the pre-assessment to 62 on the post-assessment. The smallest improvement was observed from Student D who improved four points from 53 to 55. Student B was absent from several lessons and was often oppositional during instruction. He might not have gained as much from instruction when his behavior disrupted learning. Student D was hospitalized for 10 days during instruction, as mentioned previously. While the PI met with her and made up the content of the lessons, she did this without the benefit of the class discussions and input from other the other students. This may have affected the size of her gains.

Overall, the students improved their scores with self-regulation showing the largest changed. The self-regulation subsection, as mentioned before, evaluated the student's ability to solve problems and set goals. The instruction using SDLMI and "*Skills to Pay the Bills"* was designed to improve those skills.

4.3 INTEGRATION OF SDLIM INTO WORKFORCE READINESS INSTRUCTION

Research question 3: Does integrating SDLMI into the instruction of the "Skills to Pay the Bills: Mastering Soft Skills for Workplace Success," curriculum facilitate student attainment of workforce readiness goals?

4.3.1 Goal Attainment Scale

The GAS was used to measure change or goal attainment on the specific goal each student selected using the SDLMI process. As mentioned previously, the GAS is a rating on a scale that the student and teacher, or in this case PI create (see Appendix L). The scale is based upon the goal and the PI and student evaluated the attainment of the goal using this scale.

Student A's goal was to improve verbally interacting with unfamiliar people in novel situations. Student A chose this goal because he was unable to make calls on the phone to customer service personnel and get the information he needed. He would hang up before getting the information needed because he would get frustrated. For this goal, Student A created several scripts of possible conversations with customer service personnel. In these scripts, he worked on different scenarios that could occur. He then practiced the scripts with the PI and other students in the group during two different classes. Next, the PI suggested practicing the call with a classmate but on actual phones with each person in a different room so that they could not read visual cues from each other. Student A could do this with 100% accuracy after three attempts.

The next step was to make a call to an actual customer service representative. Student A needed to retrieve a lost password for online bank account access that he needed. The first time that he called he put the call on speaker so that the PI could hear what was being asked. He

could follow the questions and answer them until the customer service representative asked for his social security number. He told her did not know it and she said she could not help him, so that call ended. Student A's next task was to ask his parent for his social security number and write it down. Even with several prompts and email messages to his mother, he was unable to obtain his social security number and was unable complete the task. During this time, the PI had the student complete the Phase 2 and Phase 3 worksheets from SDLMI (see Appendix H).

Question #6 on the worksheet stated, "What barriers could keep you from taking action?" He knew that the answer was his inability to follow through and either bring in the social security number or write it down and bring it in, but he was unable to find a way to solve that problem. So, although he followed the SDLMI strategy, he felt that his lack of motivation and poor memory skills kept him from meeting the goal. Since he had managed to meet the goal through simulation, he and the PI decided that on a scale of -2 to +2, he attained a +1, which was stated as: "in 80% of the instances of initiating phone conversations with customer service representatives, I am able to successfully gain the information needed."

Student B refused to complete the SDLMI worksheets. However, according to his teacher, he agreed to work on a goal to reduce swearing in the classroom and/or showing disrespect to other students which went along with the Beatty school rules. The PI did not keep data on this goal but did speak to his teacher who reported that he was self-monitoring and that he was being more respectful and had reduced the frequency of the use of profanity.

Student C chose a goal that came directly from his IEP goals and was important to him. He wanted to give a direct answer when asked a question instead of avoiding an answer. Giving direct answers to many questions created anxiety and not answering allowed him to lower his anxiety for a short time but did not solve the problem. An example was when his mother asked

if he had cleaned up his room as he had been directed to do. He said that instead of just answering yes or no, he would qualify the answers or avoid a direct answer especially if he thought he had done something wrong or was going to be criticized. Using the SDLMI worksheets, student C developed a plan. He identified that the reason that he used the "work around" was because he had little confidence in himself and low self-esteem. This to him this meant that he didn't believe that his answers were good enough or that he was good enough. This student developed a plan to pause before answering when these situations occurred and use a self-talk script that he created. The script was, "take a breath and think of your answer. It is ok to pause and then answer directly." Student C used the self-talk script during our classes when situations came up. The PI would at first remind him by saying, "breathe". After a few times, he could start the 'self-talk' without a prompt. Student C felt that he was directly answering questions on a more frequent basis and this was confirmed by PI through observation in class. When the PI and student C completed the GAS form at the end of instruction (see Appendix L), he felt that he had reached the expected outcome, which was giving a direct answer in 50% of the given situations. This was an improvement of 25% over baseline.

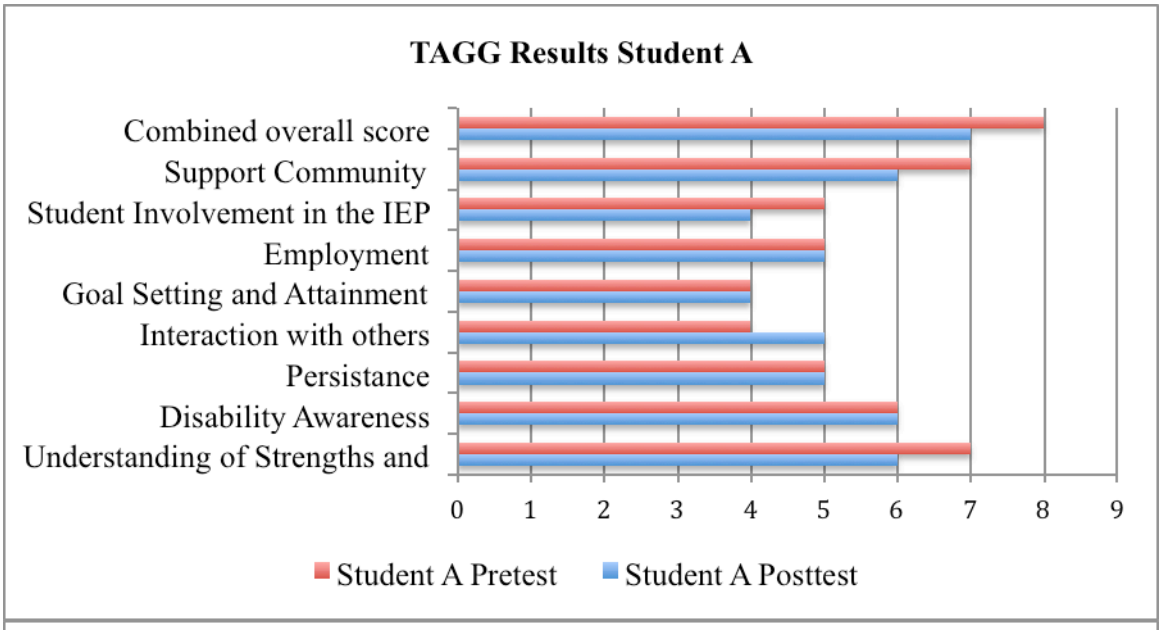
Student D worked on a goal to improve the length of conversations with friends, to increase the number of responses to questions and find novel ideas to discuss with them. At the beginning this student stated that she could only talk for about five minutes with friends before running out of things to say. Her friends express their feeling that she always said the same things. Using the SDLMI worksheets, she identified that she didn't know what to talk about with her friends. The then brainstormed with the PI about what she knew about her friends and their interests. On a piece of paper, she created a list of friends and listed their interests beside their names. Her plan according to Phase 2 of her SDLMI worksheet was to write down all the things

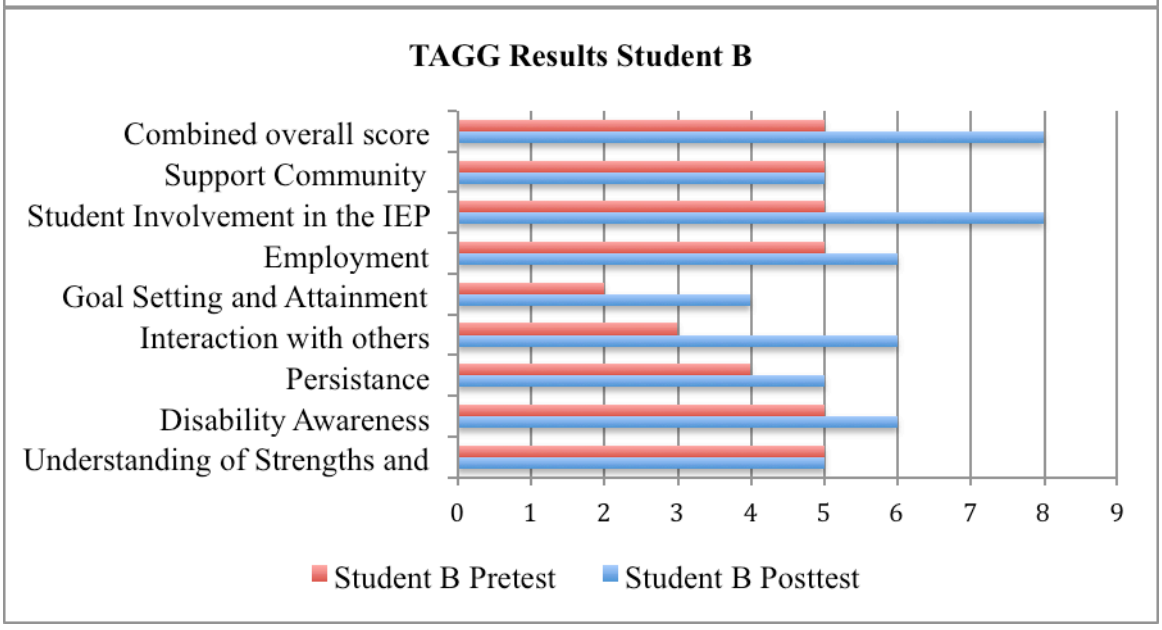
that she knew about her friends and then to choose one or two of those topics to initiate a conversation. She did this for several weekends. Each Monday she would bring back data for the PI. She kept a tally of the how many different topics they discussed and noticed that if she asked them about things that they were interested in, the conversations lasted longer than if she asked them just about things that interested her. As the weeks passed, she went from having conversations that lasted 5 minutes to some that lasted 10 minutes. She reported that it continued to be difficult to think of things to talk about but writing down the things that her friends talked about helped her. Student D's goal on the GAS was to be able to have 10 minute conversations about a variety of topics with her friends and this goal was achieved. Therefore, the students could use the SDLMI worksheets, with some modifications to identify goals and then list what they knew, didn't know and form an action plan. The structured worksheet gave them a guide to develop a plan work toward accomplishing it.

4.3.2 TAGG Results

In addition to the GAS evaluation of the SDLMI goal, the students were administered the TAGG in September and again January after completing the 20 lessons, they took it again. The survey asked the students to self-report on eight transition areas using an 8-point Likert scale. The areas covered were: having support in the community, student involvement in the IEP, knowledge of employment, goal setting and attainment, interaction with others, persistence, disability awareness and understanding of strengths and limitations (see Supplemental Materials link to TAGG). The student scores improved slightly in some areas after instruction. Figure 4 shows the student results for the pre-and post-assessment on each measure. The areas that were

discussed during instruction were goal setting and attainment, interaction with others, persistence, disability awareness and understanding strengths and limitations.





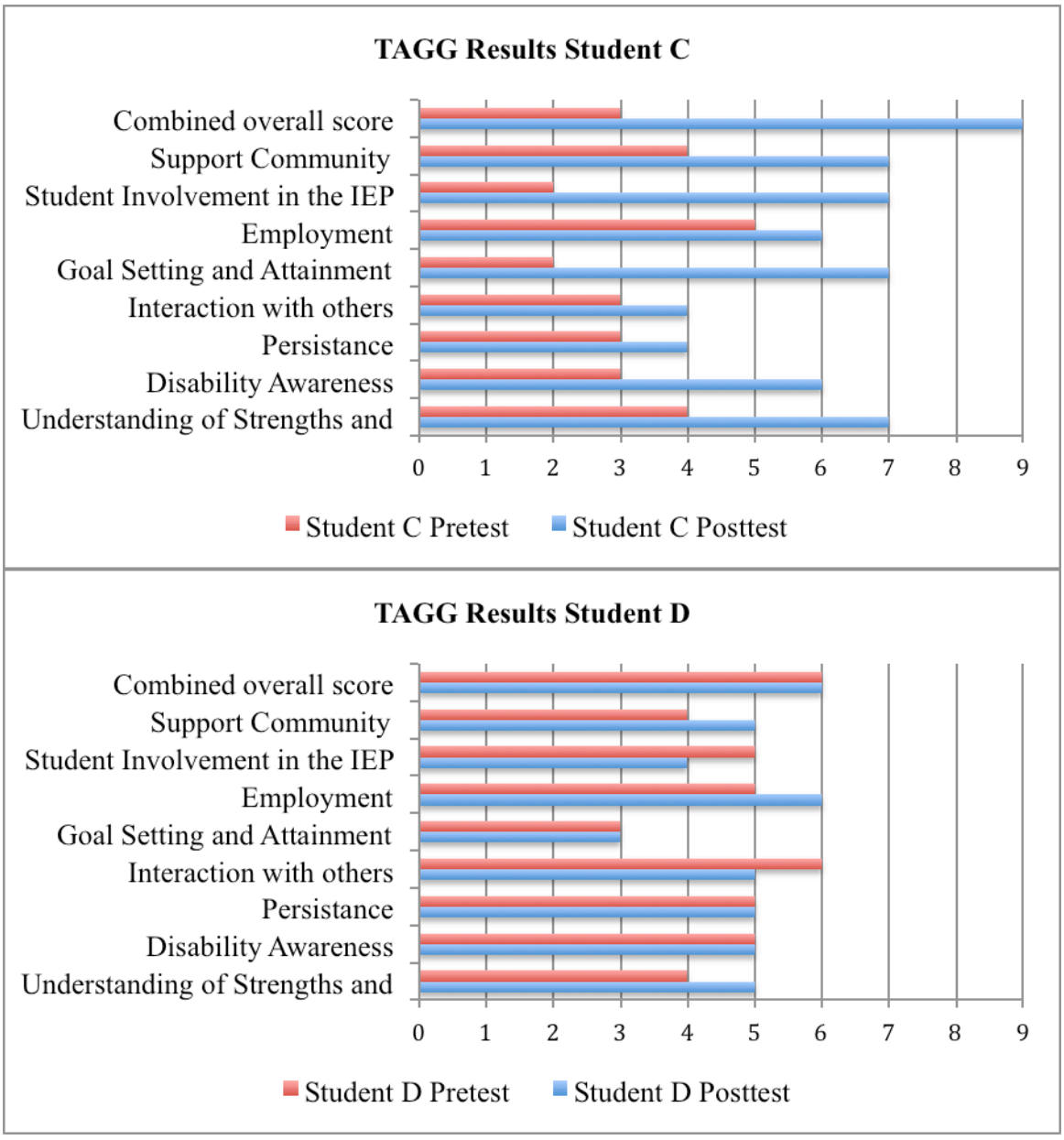


Figure 6: Pre-and post-assessment scores for students for each category.

Legend: 0-1 well below average, 1-3 below average, 3-6 average, 6-8 above average, 8-9 well above average.

The TAGG results showed modest differences in performance. Student A scores remained the same or improved from average to above average. Student A's lowest score was a 4, which was in the average range and his highest was 7 which was considered above average.

Students B and C evaluated themselves as stronger in each of the eight areas with the second administration. Student B reported that he had just participated in his IEP meeting the prior week and was much better at interacting with others on the team and making his strengths and needs known. Student C sat and did the survey with the PI. He attended intently to each item and asked questions if he was unsure of what the statement meant. Student D showed slight improvement in employment skill knowledge, knowledge of strengths and limitations and understanding of support in the community.

Both sets of data demonstrated learning or positive change in the students after instruction. They were better able to problem solve and were more aware of their strengths and limitations according to their self-report. Students C and D stated that they could communicate better with others, whether in an IEP meeting or in conversations with friends.

4.4 WORKFORCE READINESS INSTRUCTION AND EMPLOYMENT

Research question 4: Does practicing the skills taught in the "Skills to Pay the Bills: Mastering Soft Skills for Workplace Success" curriculum improve the skills needed for competitive employment?

As noted in the introduction many skills are needed for competitive employment. Problem solving, self-regulation, goal setting, self-understanding, communication, are a few skills that relate to both self-determination and workforce readiness soft skills (Algonzzine et al., 2000; Fullerton & Coyne, 1999). To answer this question several different sets of data were collected and analyzed.

4.4.1 TAGG Results

First the results of the post-assessment ARC SDS and TAGG were compared to the pre-assessment scores. As indicated in the previous section, students reported higher levels of self-determination in the post-assessment of the ARC SDS. On the TAGG, which was also a self-report measure, the students indicated that they were more aware on several of transition statements (Figure 4). For example, gains were observed for Students C and D reported gains in goal attainment and problem solving, while no change was observed for student A or B. Students B and C also reported gains in participation in the IEP meeting and employment areas.

4.4.2 Journal Prompt Responses

Another set of data was the student responses to seven journal prompts from the *"Skills to Pay the Bills: Mastering Soft Skills for Workplace Success"* curriculum (see Appendix I). Although the initial design was for ten prompts, only seven were completed. Rather than provide written responses the remaining three responses were discussed in class. When asked to respond to prompts on the soft skills they were learning about in class, each student's journal entries reflected components of self-determination. As explained in the procedure section, each journal response was read and coded by the PI and a second coder, a doctoral student who was given a coding rubric to follow (see Appendix I). The two coders read and discussed the definitions for each term before coding. Then each coder independently coded the journal prompts. Each phase identified by a coder could be coded for multiple elements or characteristics of self-determination. After the first coding the two coders met to discuss their findings and

resolve questions on phrases. The definition for psychological empowerment was coded on all the identified phrases for the students.

Student A's responses, in order of frequency included self-awareness, self-realization, self-understanding, internal locus of control, positive self-efficacy and outcome expectancy, self-observation, evaluation and reinforcement skills, and self-advocacy and leadership skills. The frequency is important in that it shows the type of self-determination skills each student exhibits. An example of self-advocacy and leadership skills was the statement:

"I like being sure of myself, and as you can tell, I have very good reason for it."

His positive self-efficacy and outcome expectancy was reflected in the statement:

"But it's not like I need feedback to continue work or anything like that."

Student B opted out of answering three of the prompts. He stated that they made him uncomfortable and he did not want to answer them. His responses to the other prompts included those that reflected self-awareness, self-understanding, and internal locus of control, positive self-efficacy and outcome expectation, choice making, problem solving and self-regulation. When asked about whether we are born with certain attitudes he said,

"I believe that we have the power to change whether we have a positive or negative attitude on things."

In another response, he talked about decision making and said:

"I occasionally process with others but usually make decisions by myself. If I am confident, I make them by myself."

Finding responses that indicated internal locus of control and self-regulation was unexpected as this student often blamed others for his problems, had problems refraining from the use of

profanity and the present level statements on his IEP indicated that he had difficulty regulating his behavior.

Student C, the oldest of the group and a young man with anxiety and self-proclaimed low self-esteem had responses that demonstrated self-understanding, self-realization, self-awareness, self-efficacy and outcome expectancy, problem solving, decision-making, self-instruction skills and an internal locus of control. Examples of statements on self-instruction skills and internal locus of control were:

"I can't change anyone but myself, right?"

"Other times it feels good. I could practice doing positive self-talk over and over until I feel comfortable."

The last student, student D was the young woman in the group. Her responses were more concrete with examples that reflected positive self-efficacy and outcome expectancy, self-realization, internal locus of control, autonomy, goal setting and attainment skills, self-regulation, self-efficacy and outcome expectancy and self-understanding. The statement:

"When people criticize the work, I do I get angry and upset."

was an example of self-observation. Another time she responded by saying:

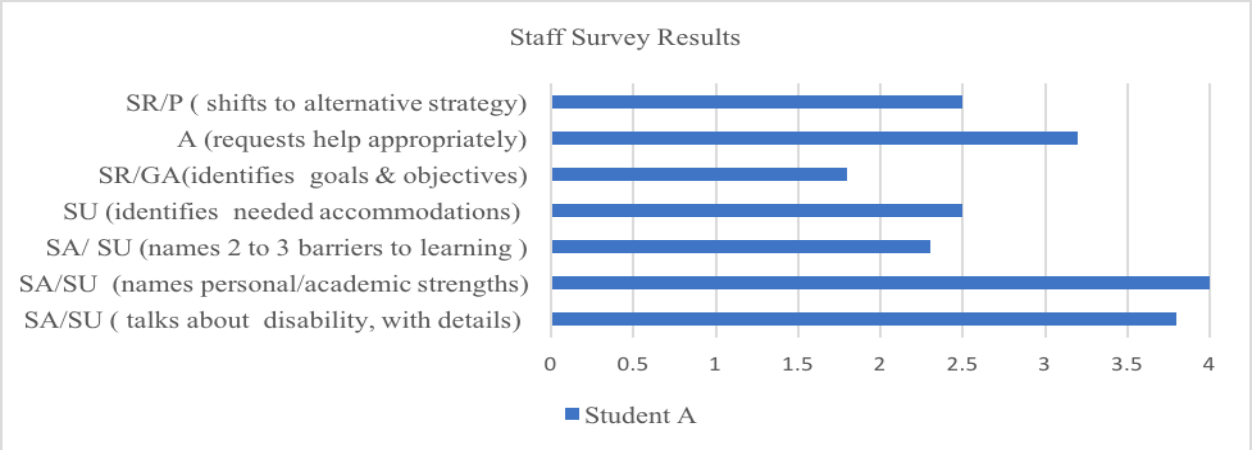
"Not achieving my goal helped me become a better person because I realized you can never give up and you need to keep trying."

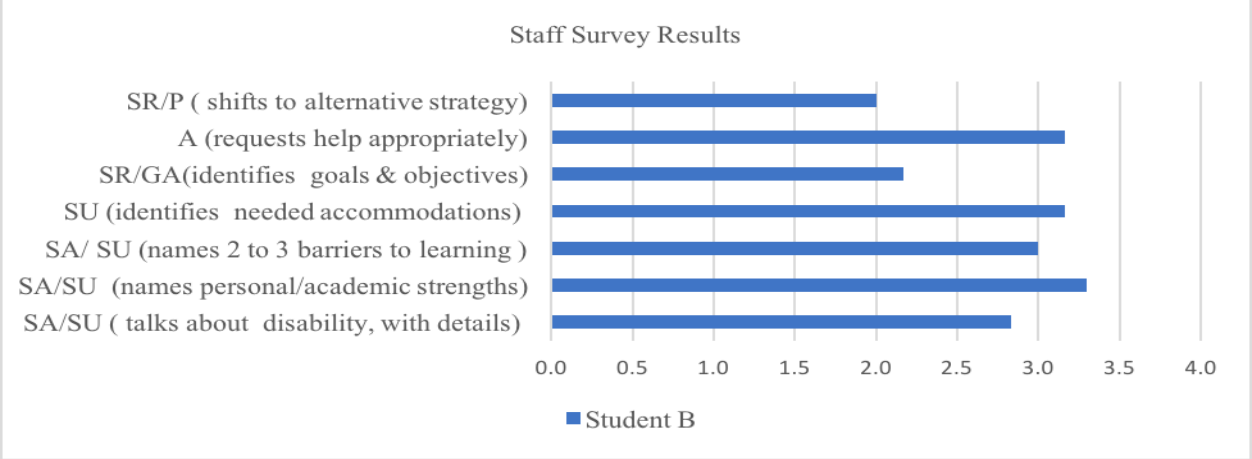
The phrases that reflected elements of self-determination were compiled by frequency. The most frequently identified elements of self-determination across the four students were: psychological empowerment, self-awareness, self-realization, self-understanding, internal locus of control and positive self-efficacy and outcome expectation. The least identified elements

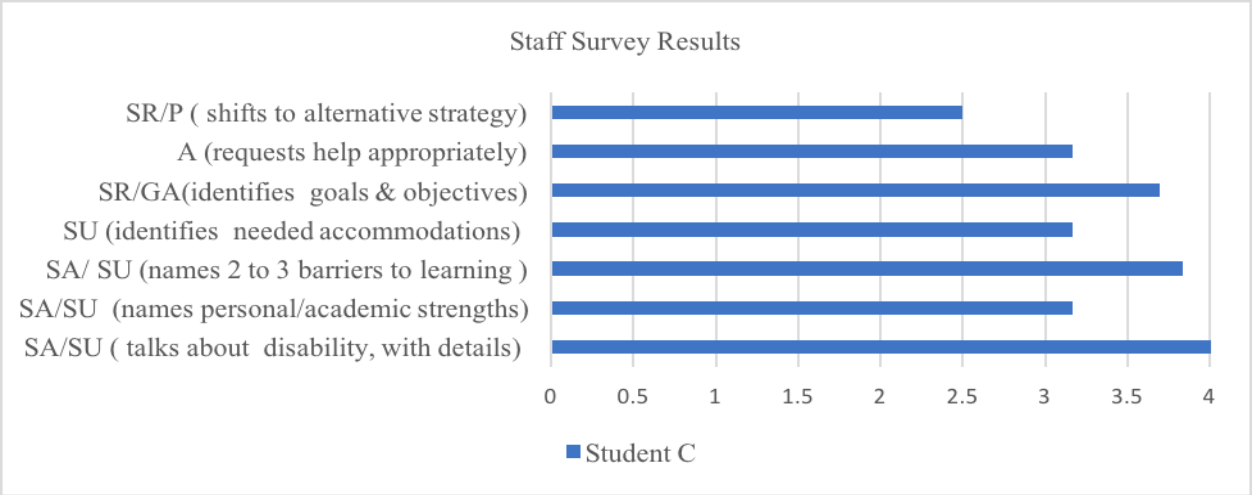
were: self-regulation, decision-making, autonomous functioning, self-instruction, self-advocacy and leadership and goal setting and attainment.

4.4.3 Staff Survey

The last set of data collected was collected with a staff survey (see Appendix C). As noted in section 3.5.5, the questions in the survey reflected the goals of the SDLMI and the workforce readiness soft skill curriculum of the class. The teacher and teaching assistant completed the survey for Students A, B, and C. Since student D changed teachers in November the teachers did not feel knowledgeable enough to complete the survey. The two social workers completed each survey, as did the behavioral specialist on the team. The purpose of the staff survey was to gather the opinions of the staff members who teach and work with these four students. The surveys were analyzed for each student. Figure 5 shows the average Likert score out of 4 for each question for each student.


Staff Survey Results
SR/P (shifts to alternative strategy)
A (requests help appropriately)
SR/GA(identifies goals & objectives)
SU (identifies needed accommodations)
SA/ SU (names 2 to 3 barriers to learning)
SA/SU (names personal/academic strengths)
SA/SU (talks about disability, with details)
0
0.5
1
1.5
2
2.5
3
3.5
4
Student A


Staff Survey Results
SR/P (shifts to alternative strategy)
A (requests help appropriately)
SR/GA(identifies goals & objectives)
SU (identifies needed accommodations)
SA/ SU (names 2 to 3 barriers to learning)
SA/SU (names personal/academic strengths)
SA/SU (talks about disability, with details)
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
4.0
Student B


Staff Survey Results
SR/P (shifts to alternative strategy)
A (requests help appropriately)
SR/GA(identifies goals & objectives)
SU (identifies needed accommodations)
SA/ SU (names 2 to 3 barriers to learning)
SA/SU (names personal/academic strengths)
SA/SU (talks about disability, with details)
0
0.5
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4
Student C

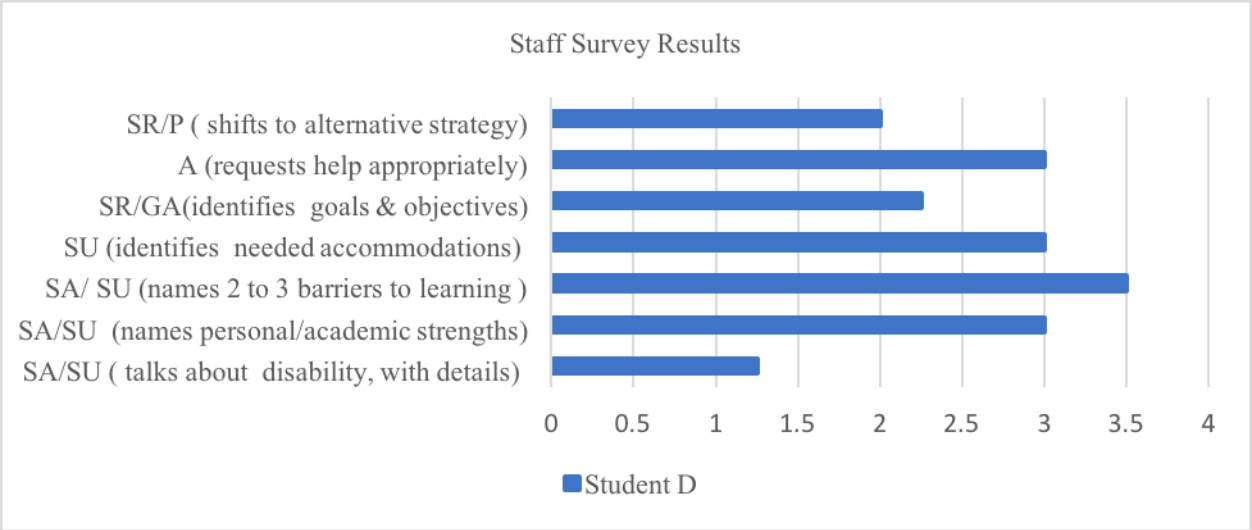


Figure 7: Staff Survey results.

Legend: SR-Self-regulation, P-Problem solving, A-Advocacy, SU-Self-understanding, SA-Self-awareness, GA Goal Attainment.

The staff responding to Student A indicated that he was strongest in self-advocacy and self-understanding. His weakest areas, according to the respondents were goal identification and attainment. Student B was stronger at requesting help, naming accommodations that he needed and identifying his personal and academic strengths. Student C had several positive responses from the respondents. He could self-advocate, name barriers to learning, identify appropriate goals and the steps to attain them and request help appropriately. Lastly student D could give examples of accommodations needed, name barriers and strengths to learning and name goals. While few of the students scored a 4 out of 4 on the survey of teacher responses, they did show strengths in areas that reflected well on the instruction from the class and on practicing the use of SDLMI.

5.0 DISCUSSION

5.1 SUMMARY

Students with HFA make up more than 50% of the population of persons with ASD. These students are entering the workforce and postsecondary education in large numbers but more that 65% are underemployed or not employed at all. The NCES reported stated that 86% of all two and four year colleges report enrollment statistics of for students with ASD and that this group comprises 2% of the identified population of students with disabilities in colleges and universities (Raune, & Lewis, 2011). Self-determination interventions are effective in improving student postsecondary outcomes (Shogren, Wehmeyer, Palmer, Rifenbark, & Little, 2013; Carter, Lane, Pierson & Stang, 2008; Garrison-Wade, 2013). Additionally, career and work experiences have been identified as predicators of career success for students with ASD and other disabilities (Kohler, Gothberg, Fowler & Coyle; Mazzotti et al., 2009; Test et al., 2009).

According to the National Technical Assistance Center on Transition (NTACT), SDLMI is an evidenced based strategy on goal attainment in education and employment (2016). However, this strategy had not been tested with students with HFA. Wehmeyer et al., (2000) designed the strategy so that it could be implemented in any instructional setting or content area. Research using SDLMI with students with cognitive disabilities, SLD, and ED established that SDLMI improved access to the general education curriculum, reduced disruptive behavior,

improve goal attainment and improved job performance (Agran et al., 2006; McGlashing-Johnson et al., 2003; Shogran et al., 2012; Wehmeyer et al., 2012). Additionally, research on SDLMI to improve student success in college demonstrated improved goal setting in students with disabilities (Finn et al., 2008). Self-determination as defined by Wehmeyer et al., (2001) includes goal attainment as an element. Since students with HFA often have deficits in self-determination a study that examined improving self-determination and workforce readiness skills could prove useful in improving postsecondary outcomes for students with HFA.

The present study examined instruction in workforce readiness that facilitated the growth of self-determination using SDLMI. To do that, a study was designed that integrated the SDLMI strategy into a class on workforce development skills. To gauge the workforce and self-determination skill deficits of the students their IEP present level information was gleaned and summarized to facilitate the administration of the ARC SDS transition assessment. Additionally, they completed the TAGG, which was another tool that identified transition skills strengths and limitations. Once skills deficits were identified the students identified a workforce related goal on which to work. Using the SDLMI worksheets as instructional tools the students were instructed on how to set goals and identify barriers to goal attainment and how to break down the barrier or find help to solve the problem.

To have ongoing data during instruction, the students responded to journal prompts that followed seven of the 20 lessons they completed. These prompts asked them to reflect on different workforce readiness topics related to the lessons in the curriculum. At the end of the 20 lessons, the students were re-administered the ARC SDS transition assessment and completed the TAGG for a second time. Those results were compared to the initial assessment results to determine whether the students gained skills during the instructional period. These results were

examined, along with the results from a staff survey to determine if the students gained workforce readiness and self-determination skills. Students showed gains in the students in several areas. Since Wehman et al., (2014) found that students with HFA often have poor self-determination skills; this study was designed to demonstrate that SDLMI could be used with students with HFA to improve self-determination skills. The results of the assessments and the staff surveys indicated that the students made gains in both workforce readiness skills and self-determination. They saw themselves as more self-determined, better able to both interact with others and advocate for themselves. Their responses to the journal prompts highlighted elements of self-determination skills.

5.2 CONCLUSIONS

5.2.1 Identified Workforce Readiness Skills

Research question 1: What workforce readiness and self-determination skills the identified secondary transition-aged students with ASD and HFA lack that may prevent them from being successful in employment settings?

To plan for instruction, the present levels of the students were examined. Each of the students participating in the study was without competitive work experience. All of them had or were participating in community-based work experiences, nevertheless, information from their IEPs and scores from the ARC SDS transition assessments identified a set of missing workforce readiness and self-determination skills. As noted in Table 4, the students identified deficits in communication, self-advocacy, self-regulation, problem solving, and goal setting.

Communication and problem solving are soft skills listed as important to successful employment, while self-advocacy, self-regulation, problem solving and goal setting are elements of self-determination (ODEP, 2016, Field & Hoffman, 1994). These present level statements in the IEP were developed and written by the IEP team, of which the student was a participant, which suggests that the student agreed with the information. The results from the initial administration of the ARC SDS confirmed that the students had weaknesses or barriers in those same areas. The deficits in these skills mirror the research, which indicates that students who demonstrate more self-determination have better postsecondary outcomes in employment and higher education (Mazzotti et al., 2009; Field, Sarver & Shaw, 2003; Garrison-Wade, 2012; Carter et al., 2008). So, using student information from various sources, deficits were identified in workforce readiness and self-determination skills of these students with HFA were identified.

5.2.2 Use of SDLMI to Improve Self-determination

Research question 2: Does the use of SDLMI to guide workforce-readiness skill instruction, improve self-determination?

The PI implemented a workforce readiness curriculum, *"Skills to Pay the Bills: Mastering Soft Skills for Workplace Success"* and used SDLMI to set and attain goals that the students identified from their IEP present levels and ARC SDS results. Research on the effectiveness of SDLMI on goal attainment has occurred in various content area classes and over different areas of transition instruction (Wehmeyer et al., 2000; Agran et al., 2008; McGlashing-Johnson et al., 2003). In each case, students made progress on attaining goals. Thus, teaching the SDLMI strategy as part of a workforce readiness class gave the students practice within a class on goal setting and improving the skills of self-determination and work.

The students' scores improved in all areas of self-determination as measured by the ARC SDS, indicating that something occurred during instruction to affect the students' self-determination skills. The lessons students completed involved improving communication skills in the workplace, working on teams, problem-solving and critical thinking and enthusiasm and attitude. Since there was no control group, a causal relationship between SDLMI and curriculum instruction and improvement in self-determination skills may not be inferred. However, the open-ended responses in the self-regulation section and the students' ability to identify and set postsecondary goals at the end of instruction indicate improvement in both goal setting and problem-solving skills. Each student improved their answers to the problem-solving section of the assessment by adding additional steps to their reasoning.

Mithaug et al., (1998) designed the SDLMI, to teach students how to identify and set a goal, identify strategies to help learn how to accomplish the goal and where to get assistance and modify strategies if they encounter difficulties. Finn et al., (2008) applied the SDLMI strategy in a disability support class for students with disabilities in college. Additionally, The findings from Palmer and Wehmeyer 2003 and indicate that "students as young as 5 years of age can set goals and work through the model with the assistance and support of their teachers". The evaluation results of this study stated that the students found the strategy helpful in solving issues and that learning to self-monitor their progress helped them feel empowered.

While students, followed the steps identified the in the SDLMI worksheets (see Appendix H) some students required adaptations. For instance, while all students who could read well, Student A and Student C had difficulty understanding and answering the questions. The PI reworded the questions and probed to help the students understand the questions and provide answers. Student A had a lengthy conversation with the PI as he had difficulty giving concise

responses to the questions. Questions were reworded and Student A was asked to elaborate on replies until an agreed upon answer was constructed. Student C, stated that his anxiety interfered with answering the questions on the worksheet. He made use of a self-calming strategy of "walking away" for five minutes before he could talk through and construct responses to the questions. Understanding the presenting behaviors of each student was important in helping the students to learn and then use this strategy. Personnel working with students with HFA learning to use SDLMI may also confront this difficulty. Thus, the students could use the worksheets to learn the SDLMI strategy, which suggests that students with HFA can benefit from the use of SDLMI just like that other groups of students with cognitive disabilities; specific learning disabilities and emotional disturbance have in earlier research (McGlashing-Johnson, 2003 & Wehmeyer et al., 2012)

According to the GAS results, this strategy worked effectively for all three students who completed the process. When students first stated the goal that wanted to reach none of them could express what was needed to accomplish that goal. However, working through the steps on the SDLMI worksheets allowed them to break down the process into manageable sections. The evaluation results of this study stated that the students found the strategy helpful in solving issues and that learning to self-monitor their progress helped them feel empowered.

5.2.3 Integration of SDLMI into Instruction

Research question 3: Does integrating SDLMI into the instruction of the "Skills to Pay the Bills: Mastering Soft Skills for Workplace Success," curriculum facilitate student attainment of workforce readiness goals?

"Skills to Pay the Bills: Mastering Soft Skills for Workplace Success," published by ODEP was piloted by seven different groups of young students according and there has been no research on its' effectiveness in improving soft skills needed for workforce success. *The Guideposts for. Success* published by the National Collaborative on Workforce and Disability 2nd edition, states that all students need opportunities and exposure to the world of work (2016, p. 2). Thus, the soft skills taught in the curriculum have been identified as skills necessary for successful employment (Robles, 2012; ODEP, 2016).

As stated in Chapter 4, the students were asked to choose a workforce readiness goal to attain. Instead of just setting a goal and implementing instruction to gain the information to master the goal, students were instructed on goal attainment and problem-solving using the lessons in the *"Skills to Pay the Bills: Mastering Soft Skills for Workplace Success"* curriculum and the worksheets from SDLMI. As found in previous research, instruction on goal attainment and problem solving was integrated into relevant instruction and the students made progress toward their individual goals (Agran et al., 2001; Agran et al., 2003; Kleinert, Harrison, Mills, Dueppen, & Trailor, 2014; & Palmer et al., 2004). While the student goals may not appear to be typical workforce readiness goals, communication with a customer service representative, increasing diversity in reciprocal conversations and being able to give a direct answer to a question, ills, they are good examples of the soft skills that students need for successful employment (Office of Disability Employment Policy, 2016). Softskills have been defined previously as interpersonal and professional skills such as communication, enthusiasm and attitude, teamwork, networking, problem solving and critical thinking, and professionalism (Office of Disability Employment Policy, 2016). Thus, the integration of SDLMI into the workforce instruction appears to have aided the students in learning to set and attain goals.

5.2.4 Improving the Skills Needed for Competitive Employment

Research question 4: Does practicing the skills, taught in the "Skills to Pay the Bills: Mastering Soft Skills for Workplace Success," curriculum, improve the skills needed for competitive employment?

The data used to examine this last research question came from both the students and the teachers and staff who worked closely with them. The students responded to journal prompts based upon workforce readiness instruction. Journal responses were then analyzed for components and elements of self-determination (Wehmeyer et al., 2001). Results suggested that the students did obtain skills in self-determination at various levels. This conclusion is supported by TAGG ARC SDS results. The elements on the journal prompts (i.e., autonomous functioning and independent living and risk and safety skills) may be a result of lack of opportunities to practice them. While taking the ARC SDS the students spoke of a not having opportunities to practice activities independently. These students may also have few chances to self-advocate or make decisions (Lee & Carter, 2012). Therefore, without the opportunity, to practice skills, cannot be increased in these areas.

Of course, another point is that the students could only respond to the prompts that were provided. While the prompts were extensions of the lessons taught, not all the prompts gave the student the opportunity to respond in a way that elicited answers reflecting self-determination. However, the prompts all reflected instruction on a soft skill topic. The journals prompts asked the students to reflect on positive attitude and whether one has the ability to change one attitudes and how their attitudes affected them and those around them. Another prompt asked them to reflect on feedback and criticism in the workplace and yet another how personal failure affected them as a person. Lastly, a prompt asked them to discuss how their actions can help them attain

goals. The journal prompt which followed instruction on a particular softskill, gave the students a chance to integrate learning from the class. The student responses reflected self-awareness and self-understanding of the importance of using soft skills to be successful.

Further, some of the richest conversations about self-determination and workforce readiness occurred during the class and could not be captured by the data collection instruments. As the students developed rapport with the PI, they gave examples of situations pertinent to the lessons but those examples were not always reflected in the journal responses.

Analysis of the teacher and staff surveys revealed that the staff did not see the students as strongly involved in self-advocacy, problem-solving and self-realization as the students did in their self-report assessments and journal entries. According to Wehmeyer (1995) the use of self-report on the ARC SDS was deliberate that students the opportunity to evaluate themselves and become self-aware was part of being self-determined. Students may see themselves differently than their teachers or parents. One way to mitigate these differences would be to have the teacher and student meet and compare the differences in the results giving the teacher and student an opportunity to discuss those differences and find common ground (Wehmeyer, Palmer, Shogren, Williams-Diehm, & Soukup, 2013). The data from the journal prompts, the survey results, two transition assessments did demonstrate examples of self-determination skills. The combination of data examined here does suggest that direct instruction on workforce readiness skills and problem-solving instruction can improve the skills needed to be successful in competitive employment.

5.3 LIMITATIONS

Limitations of this study included the small sample size and student attrition. Students with ASD are very different from each other. Losing a third of the sample to attrition limits the ability to generalize the conclusions. This study took place in a private school setting with a very specialized mode of instruction; online and therapeutic instruction. The students were placed in this environment by their IEP teams due to the need for supports that were not available in their home school. While they may reflect the same characteristics of student with HFA in public school settings, it is plausible that their needs were greater than a population of students in public school would have been.

Another limitation is the short length of the study. Continuing this study for an entire school year rather than one semester would have allowed for additional practice using SDLMI in various settings and situations. The units that the PI taught matched the student identified needs,. However, given more time, there were lessons where additional practice and discussion might have grounded the student learning further. Additionally, using both SDLMI and a workforce readiness curriculum for instruction did not allow the PI to differentiate between what the students learned from the curriculum and the SDLMI strategy.

It is difficult to match the characteristics of students with ASD to create control groups so designing studies to replicate findings is often difficult. Finally, according to Assor and Connell (1992) the use of self-report has a limitation as the students with disabilities may hold unrealistic perceptions.

5.4 IMPLICATIONS FOR RESEARCH

There has been little research on effective strategies to improve workforce readiness or self-determination skills in students with HFA. There is evidence that students with HFA are deficit in these skills (Barnhill, 2014; Sciutto, Richwine, Mentrikoski, & Niedzwieki, 2012; Mynatt, Gibbons & Hughes, 2013). This study evaluated the effectiveness of direct instruction on workforce readiness skills using *"Skills to Pay the Bills: Mastering Soft Skills for Workplace Success"* and the integrating the SDLMI strategy into the instruction to improve self-determination. The students increased their scores on two transition assessments and showed growth on transition goals using SDLMI. Further research to support the use of this strategy as an evidence-based practice for increasing goal setting and self-determination in students with HFA is warranted since there is a paucity of research on increasing self-determination skills of students with HFA.

As noted previously, elements of self-determination and soft skills needed for successful postsecondary outcomes and employment have similarities (Wehmeyer et al., 2001; NCWD/Youth, 2016). Problem solving and goal attainment are separately identified as critical to being self-determined and successful in employment. Research on the relationship between self-determination skills and the soft skills needed for successful employment could potentially lead to additional evidence-based instructional strategies for all transition-aged students with disabilities.

Since it is difficult to match the characteristics of students with ASD to create control groups designing studies to replicate findings is often difficult. However, using multiple and mixed methods is a way to add validity to studies on students with ASD or HFA. With one in 68 children being identified with ASD, and more than 50 percent of those students have HFA, any

effective strategy that improves the postsecondary outcomes of students with ASD should be researched to determine its effectiveness.

The population of students with HFA and some of the actual participants in the study have comorbid mental health diagnoses of ADHD, general anxiety, depression and oppositional defiant disorder. Research examining the potential relationship between co-morbidity and the effects of the SDLMI intervention and improvement of self-determination skills and workforce readiness may be useful to pursue. Student C, had a comorbid diagnosis of generalized anxiety. He had difficulty with completing the surveys, adjusting to the group instruction and used self-identified behavioral techniques to self-calm. Characteristics of particular mental health diagnoses might improve or create barriers for students with HFA working on improving postsecondary outcomes.

The *"Skills to Pay the Bills: Mastering Soft Skills for Workplace Success"* curriculum was produced by the Department of Labor's Office of Disability Employment Policy (ODEP) and was piloted by seven youth programs. However, there has been no research on its effectiveness in improving workforce readiness skills with students with or without disabilities. While the students gained skills while using the curriculum, it was not a controlled study. Designing and implementing research on the effectiveness of the curriculum, for transition-aged students with and without disabilities, and on successful employment and other postsecondary outcomes would benefit those wanting to use the curriculum.

While there has been research on using SDLMI with elementary students, where the strategy has been effective in improving goal attainment, further research with students with HFA could add to evidence-based practices and strategies to improve self-determination. The PI shared the results of the research study with the staff of the school including the teachers of the

elementary and middle school students. They asked if SDLMI was a strategy that they could start to incorporate with the younger students since they already were working on improving problem solving and goal setting. With practitioners requesting evidence-based strategies to use with younger students with HFA, more research is needed.

5.5 IMPLICATIONS FOR PRACTICE

Identifying a strategy that practitioners working in secondary transition could use to improve the self-determination skills of students with HFA was the purpose of this study. SDLMI is an evidence-based strategy known to improve goal attainment and problem solving in students with ID or those with high incidence disabilities like SLD or ED (Wehmeyer et al., 2000; Test et al., 2013). This study, an evaluation of the use of SDLMI to improve self-determination and workforce readiness in students with HFA, shows promise. The SDLMI strategy and teacher's guide is available online for downloading and is an easily implemented strategy. Since the teacher's guide can be downloaded, and directions and examples for use are part of the guide, teachers can use it as written or to make adaptations, with permission, for reading levels or student difficulty in writing (Wehmeyer et al., 2009). The PI identified differentiation that was required for two of the students in the study. Those strategies could be added to the teacher's guide to make it more useful for instructors of students with ASD.

SDLMI can be used in different content area classes or in the community as a strategy for setting and attaining goals. Additionally, research has demonstrated that it is effective with elementary students with and without disabilities (Palmer & Wehmeyer, 2003). This it is a

strategy that teachers of students with ASD could start to integrate into instruction in the early grades.

Since students with ASD can successfully use visual supports to gain independence in academic or employment tasks, the strategy could be applied in different ways in employment learning experiences (Wehman, et al., 2014). One possible use would be to teach parts of the set of questions as a script for students to learn and refer to when they are faced with setting a goal or solving a problem in different settings. Since the strategy teaches the student to identify what they want to learn, what they know, what the barriers are and what the plan is, it is a generalizable strategy that could be used in different settings. Another way of utilizing this strategy could be to create a task list or visual organizer or set of cards for a student to utilize when setting a goal or trying to problem solve in different situations. These cues could also be added to an application on a smart phone (Wehman, et al., 2014). Ease of use and adaptability of this strategy makes it a useful technique to explore for increasing problem solving and goal setting skills of transition-aged students with HFA.

5.6 CONCLUSION

The students in this study improved their self-determination skills using SDLMI and the Skills to Pay the Bills curriculum. Those self-determination skills are some of the same elements contained in the soft skills needed for successful employment. The students identified goals to attain based upon their present level of functioning on transition skills combined with their interests. Allowing the students to choose their own goal allowed them to practice choice-making skills and self-advocacy.

Direct instruction in self-determination skills for students with ASD has been found to be effective (Fullerton and Coyne, 1999). Some of those same skills are part of the Skills to Pay the Bills curriculum and the soft skills identified in the Guideposts for Success. Combining the instruction of self-determination and soft skills in transition classes, general curriculum or the community could provide for efficient use of time and instruction and the synergy could affect greater postsecondary outcomes for students with HFA and other disabilities.

The students participated in the activities in the Skills to Pay the Bills curriculum actively and enthusiastically, suggesting that using this curriculum to improve workforce readiness skills with students with HFA is promising. Additionally, these students could follow the worksheets and steps outlined in the SDLMI strategy with adaptations for learning differences. The worksheet acted as a graphic organizer allowing them to work independently or with minimal scaffolding and providing them with opportunities for autonomous work. Further research expanding the timeframe in which the curriculum and strategy is used, is warranted.

APPENDIX A

IRB STUDENT APPROVAL

University of Pittsburgh
Institutional Review Board

3500 Fifth Avenue
Pittsburgh, PA 15213
(412) 383-1480
(412) 383-1508 (fax)
http://www.irb.pitt.edu

Memorandum

To: LeeAnn Wagner Cica
From: IRB Office
Date: 8/4/2016
IRB#: PRO16070041
Subject: IMPROVING SELF-DETERMINATIONS SKILLS IN SECONDARY STUDENTS WITH HIGH-FUNCTIONING AUTISM: AN EVALUATION USING THE SELF-DETERMINED LEARNING MODEL OF INSTRUCTION

The above-referenced project has been reviewed by the Institutional Review Board. Based on the information provided, this project meets all the necessary criteria for an exemption, and is hereby designated as "exempt" under section

45 CFR 46.101(b)(1)

Please note the following information:

- Investigators should consult with the IRB whenever questions arise about whether planned changes to an exempt study might alter the exempt status. Use the "**Send Comments to IRB Staff**" link displayed on study workspace to request a review to ensure it continues to meet the exempt category.
- It is important to close your study when finished by using the "**Study Completed**" link displayed on the study workspace.
- Exempt studies will be archived after 3 years unless you choose to extend the study. If your study is archived, you can continue conducting research activities as the IRB has made the determination that your project met one of the required exempt categories. The only caveat is that no changes can be made to the application. If a change is needed, you will need to submit a NEW Exempt application.

Please be advised that your research study may be audited periodically by the University of Pittsburgh Research Conduct and Compliance Office.

Figure 8: IRB Approval Letter

APPENDIX B

ARC SD SCALE

The Arc's Self-Determination Scale

Adolescent Version

By Michael Wehmeyer, Ph.D., Principal Investigator
Kathy Kelchner, M.Ed., Project Director
Self-Determination Assessment Project

The Arc's Self-Determination Scale (Adolescent Version) is a student self-report measure of self-determination designed for use by adolescents with cognitive disabilities. The scale has two primary purposes:

- To provide students with cognitive disabilities and educators a tool that assists them in identifying student strengths and limitations in the area of self-determination; and
- To provide a research tool to examine the relationship between self-determination and factors that promote/inhibit this important outcome.

The scale has 72 items and is divided into four sections. Each section examines a different essential characteristic of self-determination: Autonomy, Self-Regulation, Psychological Empowerment and Self-Realization. Each section has unique directions that should be read before completing the relevant items. Scoring the scale (see Procedural Guidelines for scoring directions) results in a total self-determination score and subdomain scores in each of the four essential characteristics of self-determination. A comprehensive discussion and exploration of self-determination as an educational outcome is provided in The Arc's Self-Determination Scale Procedural Guidelines, as well as detailed scoring procedures and a discussion about the use of self-report measures in general. The scale **should not be** used until the administrator is thoroughly familiar with these issues.

The Arc's Self-Determination Scale (Adolescent Version) was developed by The Arc National Headquarters with funding from the U. S. Department of Education, Office of Special Education Programs (OSEP), under Cooperative Agreement #H023J20012. Questions used in Section One (Autonomy) were adapted, with permission from the authors, from the Autonomous Functioning Checklist. Questions used in Section 4 (Self-Realization) were adapted, with permission from the author, from the Short form of the Personal Orientation Inventory. Appropriate citations for both instruments are available in The Arc's Self-Determination Scale Procedural Guidelines. The Arc gratefully acknowledges the generosity of these researchers.

Student's name _____

Date _____

School _____

Teacher's name _____

The Arc

Section One
Autonomy

Directions:

Check the answer on each question that BEST tells how you act in that situation. There are no right or wrong answers. Check only one answer for each question. (If your disability limits you from actually performing the activity, but you have control over the activity (such as a personal care attendant), answer like you performed the activity.)

1A. Independence: Routine personal care and family oriented functions

1A. Subtotal _____

1. I make my own meals or snacks.	☐ I do not even if I have the chance	☐ I do sometimes when I have the chance	☐ I do most of the time I have the chance	☐ I do every time I have the chance
2. I care for my own clothes.	☐ I do not even if I have the chance	☐ I do sometimes when I have the chance	☐ I do most of the time I have the chance	☐ I do every time I have the chance
3. I do chores in my home.	☐ I do not even if I have the chance	☐ I do sometimes when I have the chance	☐ I do most of the time I have the chance	☐ I do every time I have the chance
4. I keep my own personal items together.	☐ I do not even if I have the chance	☐ I do sometimes when I have the chance	☐ I do most of the time I have the chance	☐ I do every time I have the chance
5. I do simple first aid or medical care for myself.	☐ I do not even if I have the chance	☐ I do sometimes when I have the chance	☐ I do most of the time I have the chance	☐ I do every time I have the chance
6. I keep good personal care and grooming.	☐ I do not even if I have the chance	☐ I do sometimes when I have the chance	☐ I do most of the time I have the chance	☐ I do every time I have the chance

1B. Independence: Interaction with the environment

1B. Subtotal _____

7. I make friends with other kids my age.	☐ I do not even if I have the chance	☐ I do sometimes when I have the chance	☐ I do most of the time I have the chance	☐ I do every time I have the chance
8. I use the post office.	☐ I do not even if I have the chance	☐ I do sometimes when I have the chance	☐ I do most of the time I have the chance	☐ I do every time I have the chance
9. I keep my appointments and meetings.	☐ I do not even if I have the chance	☐ I do sometimes when I have the chance	☐ I do most of the time I have the chance	☐ I do every time I have the chance
10. I deal with salespeople at stores and restaurants.	☐ I do not even if I have the chance	☐ I do sometimes when I have the chance	☐ I do most of the time I have the chance	☐ I do every time I have the chance

1C. Acting on the basis of preferences, beliefs, interests and abilities: Recreational and leisure time

1C. Subtotal _____

11. I do free time activities based on my interests.	☐ I do not even if I have the chance	☐ I do sometimes when I have the chance	☐ I do most of the time I have the chance	☐ I do every time I have the chance
12. I plan weekend activities that I like to do.	☐ I do not even if I have the chance	☐ I do sometimes when I have the chance	☐ I do most of the time I have the chance	☐ I do every time I have the chance
13. I am involved in school-related activities.	☐ I do not even if I have the chance	☐ I do sometimes when I have the chance	☐ I do most of the time I have the chance	☐ I do every time I have the chance
14. My friends and I choose activities that we want to do.	☐ I do not even if I have the chance	☐ I do sometimes when I have the chance	☐ I do most of the time I have the chance	☐ I do every time I have the chance
15. I write letters, notes or talk on the phone to friends and family.	☐ I do not even if I have the chance	☐ I do sometimes when I have the chance	☐ I do most of the time I have the chance	☐ I do every time I have the chance
16. I listen to music that I like.	☐ I do not even if I have the chance	☐ I do sometimes when I have the chance	☐ I do most of the time I have the chance	☐ I do every time I have the chance

1D. Acting on the basis of preferences, beliefs, interests and abilities: Community involvement and interaction

1D. Subtotal _____

17. I volunteer in things that I am interested in.	☐ I do not even if I have the chance	☐ I do sometimes when I have the chance	☐ I do most of the time I have the chance	☐ I do every time I have the chance
18. I go to restaurants that I like.	☐ I do not even if I have the chance	☐ I do sometimes when I have the chance	☐ I do most of the time I have the chance	☐ I do every time I have the chance
19. I go to movies, concerts, and dances.	☐ I do not even if I have the chance	☐ I do sometimes when I have the chance	☐ I do most of the time I have the chance	☐ I do every time I have the chance
20. I go shopping or spend time at shopping centers or malls.	☐ I do not even if I have the chance	☐ I do sometimes when I have the chance	☐ I do most of the time I have the chance	☐ I do every time I have the chance
21. I take part in youth groups (like 4-H, scouting, church groups)	☐ I do not even if I have the chance	☐ I do sometimes when I have the chance	☐ I do most of the time I have the chance	☐ I do every time I have the chance

1E. Acting on the basis of preferences, beliefs, interests and abilities: Post-school directions

1E. Subtotal _____

22. I do school and free time activities based on my career interests.	☐ I do not even if I have the chance	☐ I do sometimes when I have the chance	☐ I do most of the time I have the chance	☐ I do every time I have the chance
23. I work on school work that will improve my career chances.	☐ I do not even if I have the chance	☐ I do sometimes when I have the chance	☐ I do most of the time I have the chance	☐ I do every time I have the chance
24. I make long-range career plans.	☐ I do not even if I have the chance	☐ I do sometimes when I have the chance	☐ I do most of the time I have the chance	☐ I do every time I have the chance
25. I work or have worked to earn money.	☐ I do not even if I have the chance	☐ I do sometimes when I have the chance	☐ I do most of the time I have the chance	☐ I do every time I have the chance
26. I am in or have been in career or job classes or training.	☐ I do not even if I have the chance	☐ I do sometimes when I have the chance	☐ I do most of the time I have the chance	☐ I do every time I have the chance
27. I have looked into job interests by visiting work sites or talking to people in that job.	☐ I do not even if I have the chance	☐ I do sometimes when I have the chance	☐ I do most of the time I have the chance	☐ I do every time I have the chance

1F. Acting on the basis of preferences, beliefs, interests and abilities: Personal expression

1F. Subtotal _____

28. I choose my clothes and the personal items I use every day.	☐ I do not even if I have the chance	☐ I do sometimes when I have the chance	☐ I do most of the time I have the chance	☐ I do every time I have the chance
29. I choose my own hair style.	☐ I do not even if I have the chance	☐ I do sometimes when I have the chance	☐ I do most of the time I have the chance	☐ I do every time I have the chance
30. I choose gifts to give to family and friends.	☐ I do not even if I have the chance	☐ I do sometimes when I have the chance	☐ I do most of the time I have the chance	☐ I do every time I have the chance
31. I decorate my own room.	☐ I do not even if I have the chance	☐ I do sometimes when I have the chance	☐ I do most of the time I have the chance	☐ I do every time I have the chance
32. I choose how to spend my personal money.	☐ I do not even if I have the chance	☐ I do sometimes when I have the chance	☐ I do most of the time I have the chance	☐ I do every time I have the chance

Please check Section One, A thru F, to make sure there is only one answer for each question.

Section Two
Self-Regulation

Directions:

Each of the following questions tell the beginning of a story and how the story ends. Your job is to tell what happened in the middle of the story, to connect the beginning and the end. Read the beginning and ending for each question, then fill in the BEST answer for the middle of the story. There are no right or wrong answers.

Remember, fill in the one answer that you think BEST completes the story.

2A. Interpersonal cognitive problem-solving

33. **Beginning:** You are sitting in a planning meeting with your parents and teachers. You want to take a class where you can learn to work as a cashier in a store. Your parents want you to take the Family and Child Care class. You can only take one of the classes.

Middle: _____

_____

_____

_____

_____

Ending: The story ends with you taking a vocational class where you will learn to be a cashier.

Story Score _____

34. **Beginning:** You hear a friend talking about a new job opening at the local book store. You love books and want a job. You decide you would like to work at the bookstore.

Middle: _____

_____

_____

_____

_____

Ending: The story ends with you working at the bookstore.

Story Score _____

35. **Beginning:** Your friends are acting like they are mad at you. You are upset about this.

Middle: _____

_____

_____

_____

_____

Ending: The story ends with you and your friends getting along just fine.

Story Score _____

36. **Beginning:** You go to your English class one morning and discover your English book is not in your backpack. You are upset because you need that book to do your homework.

Middle: _____

_____

_____

_____

_____

Ending: The story ends with you using your English book for homework.

Story Score _____

37. **Beginning:** You are in a club at school. The club advisor announces that the club members will need to elect new officers at the next meeting. You want to be the president of the club.

Middle: _____

_____

_____

_____

_____

_____

_____

_____

Ending: The story ends with you being elected as the club president.

Story Score _____

38. **Beginning:** You are at a new school and you don't know anyone. You want to have friends.

Middle: _____

_____

_____

_____

_____

_____

_____

_____

Ending: The story ends with you having many friends at the new school.

Story Score _____

2A Subtotal _____

2B: Goal setting and task performance

Directions:

The next three questions ask about your plans for the future. Again, there are no right or wrong answers. For each question, tell if you have made plans for that outcome and, if so, what those plans are and how to meet them.

39. Where do you want to live after you graduate?

☐ I have not planned for that yet.

☐ I want to live_____

List four things you should do to meet this goal:

1) _____
2) _____
3) _____
4) _____

40. Where do you want to work after you graduate?

☐ I have not planned for that yet.

☐ I want to work_____

List four things you should do to meet this goal:

1) _____
2) _____
3) _____
4) _____

41. What type of transportation do you plan to use after graduation?

☐ I have not planned for that yet.

☐ I plan to use_____

List four things you should do to meet this goal:

1) _____
2) _____
3) _____
4) _____

2B Subtotal _____

Section Three
Psychological Empowerment

Directions:

Check the answer that BEST describes you.

Choose only one answer for each question.

There are no right or wrong answers.

42. ☐ I usually do what my friends want... or
☐ I tell my friends if they are doing something I don't want to do.

43. ☐ I tell others when I have new or different ideas or opinions... or
☐ I usually agree with other peoples' opinions or ideas.

44. ☐ I usually agree with people when they tell me I can't do something... or
☐ I tell people when I think I can do something that they tell me I can't.

45. ☐ I tell people when they have hurt my feelings... or
☐ I am afraid to tell people when they have hurt my feelings.

46. ☐ I can make my own decisions... or
☐ Other people make decisions for me.

47. ☐ Trying hard at school doesn't do me much good... or
☐ Trying hard at school will help me get a good job.

48. ☐ I can get what I want by working hard... or
☐ I need good luck to get what I want.

49. ☐ It is no use to keep trying because that won't change things... or
☐ I keep trying even after I get something wrong.

50. ☐ I have the ability to do the job I want... or
☐ I cannot do what it takes to do the job I want.

51. ☐ I don't know how to make friends... or
☐ I know how to make friends.

52. ☐ I am able to work with others... or
☐ I cannot work well with others.

53. ☐ I do not make good choices... or
☐ I can make good choices.

54. ☐ If I have the ability, I will be able to get the job I want... or
☐ I probably will not get the job I want even if I have the ability.

55. ☐ I will have a hard time making new friends... or
☐ I will be able to make friends in new situations.

56. ☐ I will be able to work with others if I need to... or
☐ I will not be able to work with others if I need to.

57. ☐ My choices will not be honored... or
☐ I will be able to make choices that are important to me.

Section 3 Subtotal _____

Section Four
Self-Realization

Directions:
Tell whether you think each of these statements describes how you feel about yourself or not. There are no right or wrong answers. Choose only the answer that BEST fits you.

58. I do not feel ashamed of any of my emotions.	☐ Agree	☐ Don't agree	66. I don't accept my own limitations.	☐ Agree	☐ Don't agree
59. I feel free to be angry at people I care for.	☐ Agree	☐ Don't agree	67. I feel I cannot do many things.	☐ Agree	☐ Don't agree
60. I can show my feelings even when people might see me.	☐ Agree	☐ Don't agree	68. I like myself.	☐ Agree	☐ Don't agree
61. I can like people even if I don't agree with them.	☐ Agree	☐ Don't agree	69. I am not an important person.	☐ Agree	☐ Don't agree
62. I am afraid of doing things wrong.	☐ Agree	☐ Don't agree	70. I know how to make up for my limitations.	☐ Agree	☐ Don't agree
63. It is better to be yourself than to be popular.	☐ Agree	☐ Don't agree	71. Other people like me.	☐ Agree	☐ Don't agree
64. I am loved because I give love.	☐ Agree	☐ Don't agree	72. I am confident in my abilities.	☐ Agree	☐ Don't agree
65. I know what I do best.	☐ Agree	☐ Don't agree	**Section 4 Subtotal** _____		

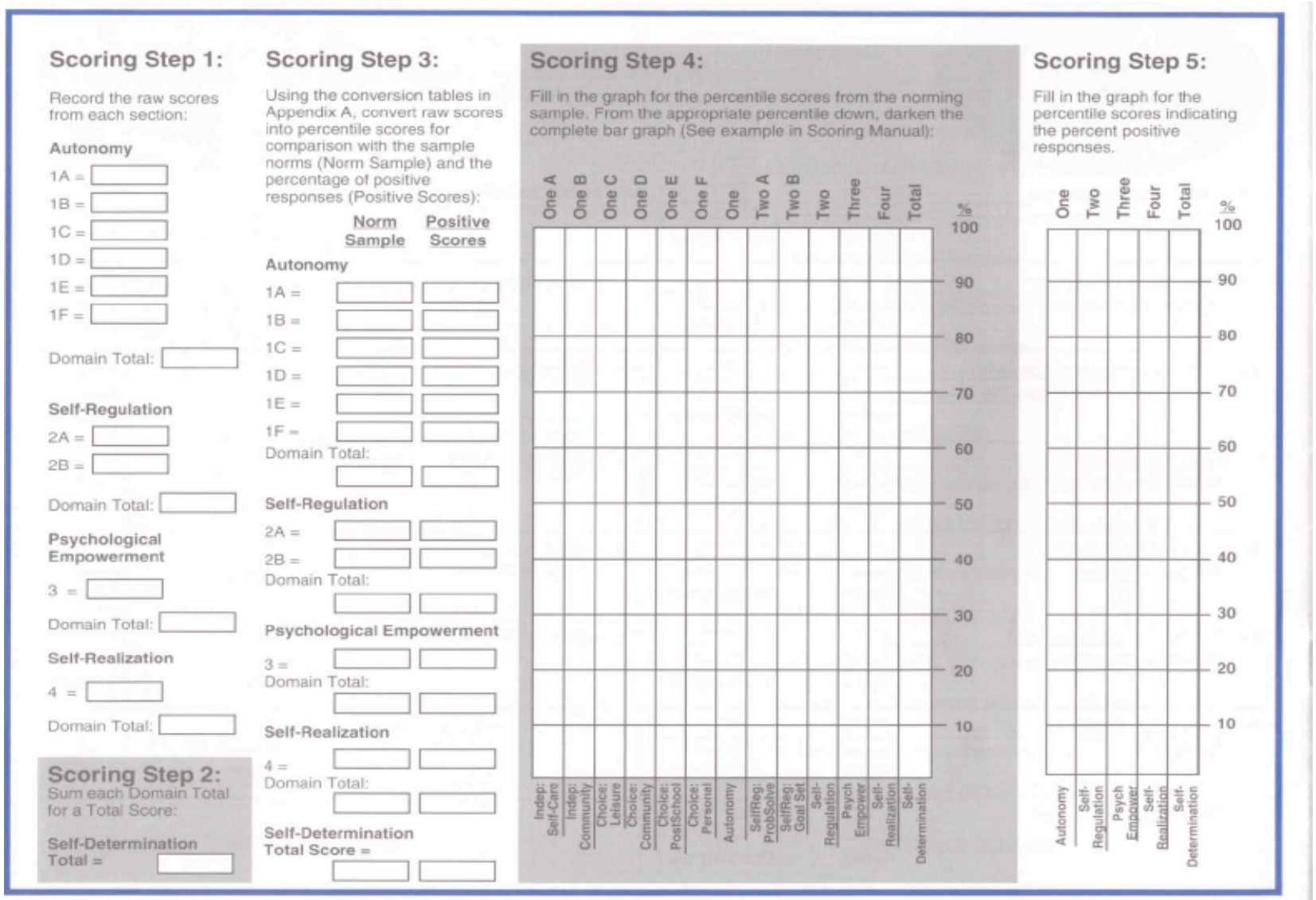


Figure 9: ARC Self-Determination Scale

APPENDIX C

TEACHER AND STAFF SURVEY

Directions: Choose the best answer to each question. Student Name				
The student is able to identify and talk about his/her disability, providing specific details.				
Don't know	Extremely Unlikely	Unlikely	Likely	Extremely Likely
When asked, the student is able to name between 2 and 5 personal or academic strengths.				
Don't know	Extremely Unlikely	Unlikely	Likely	Extremely Likely
When asked, the student is able to name 2 to 3 barriers to learning or weaknesses.				
Don't know	Extremely Unlikely	Unlikely	Likely	Extremely Likely
The student is able to give an example of an accommodation that would help them complete a work or learning task.				
Don't know	Extremely Unlikely	Unlikely	Likely	Extremely Likely
The student is able to identify an appropriate goal and the steps to meet that goal.				
Don't know	Extremely Unlikely	Unlikely	Likely	Extremely Likely
The student is able to request help appropriately.				
Don't know	Extremely Unlikely	Unlikely	Likely	Extremely Likely
When the identified steps to master a goal are not working, the student is able to shift to an alternative strategy.				

Figure 10: Staff Survey

APPENDIX D

TAGG AND ARC SUMMARY

Lawcica/student profile information summary/2016/draft1

TAGG Goal Generator Summary
Student ID
Directions: For each section, look for information that relates to the student's needs concerning Self-determination, workforce readiness skills and communication skills. If the needs are identified by degree of need, code them as 1-low, 2-moderate, 3-high. Use the definitions and key words listed below for guidance.
Self-determination-Autonomy, self-regulation, self-awareness, psychological empowerment, advocacy, problem-solving, goal-setting **Communication**-turn-taking, reciprocal conversation, appropriate topics, etc. **Workforce skills**-motivation, enthusiasm, direction following, organization
Self-determination Needs
Communication Needs
Workforce skill Needs
Community Based Learning Summaries
Self-determination Needs
Communication Needs
Workforce skill Needs

ARC – Self-determination Scores		
	Pre- instruction scores	**Post –instruction scores**
Autonomy		
Self-Regulation		
Psychological Empowerment		
Self-Realization		
Total Self determination		

Figure 11: TAGG Student Summary

APPENDIX E

IEP DOCUMENT ANALYSIS

Behaviors impede learning	
Section III-Transition Services	
Postsecondary education	
Employment	
Independent Living	
Section V-Goals and Objectives	
Goals	
Objectives	

IEP Document Analysis	
Student ID	
Directions: For each section, look for information that relates to the student's needs concerning Self-determination, workforce readiness skills and communication skills. If the needs are identified by degree of need, code them as 1-low, 2-moderate, 3-high. Use the definitions and key words listed below for guidance.	
Self-determination-Autonomy, self-regulation, self-awareness, psychological empowerment, advocacy, problem-solving, goal-setting **Communication**-turn-taking, reciprocal conversation, appropriate topics, etc. **Workforce skills**-motivation, enthusiasm, direction following, organization	
Section II-Present Levels	
Present levels Academic	
Present levels functional	
Present levels related to Post-secondary goals	
Parent concerns	
Strengths	
Needs	

Figure 12: ARC SDS and IEP student summary of present levels.

APPENDIX F

PARENT CONSENT LETTER

Parent Consent for minor to participate in research study.

Consent

Study Title: How instruction in goal attainment and workforce readiness skills can help you become more self-determined.

Your child is invited to participate in a research study conducted by LeeAnn Wagner Cica and Dr. Steven Lyon, from the University of Pittsburgh, School of Education, Department of Instruction. We hope to learn if instruction using the self-determined learning model of instruction will help your child improve skills in autonomy, goal setting, self-regulation and self-knowledge. The instruction will take place during a workforce readiness class taking place twice a week for 8-10 weeks. The classes will be about 45 minutes long. Your child was selected as a possible participant in this study because they have been diagnosed with high-functioning autism and they have transition goals on improving post-secondary outcomes in their IEP. Additionally, his teacher has already asked your child if he/she is interested in participating in the study and he/she is interested.

If you decide to allow your child to participate, they will be completing two pre- and post-transition assessments. They will be participating in a workforce readiness curriculum called *"Skills to Pay the Bills: Mastering Soft Skills for Workplace Success"*. You can look at the curriculum at https://www.dol.gov/odep/topics/youth/softskills/softskills.pdf .

We do not feel that there are any risks to your child if he/she participates in this study. However, they may stop participation at any time. The information gained from this study

may help your child improve his/her workforce readiness and goal setting skills. However, I cannot guarantee that your child will personally receive any benefits from this research. Participants who complete the study will be compensated with a $25.00 cash gift card. If they withdraw from the study, they will still be compensated with a $12.00 cash gift card.

Any information that is obtained in connection with this study and that can identify your child will remain confidential and will be disclosed only with your permission or as required by law. Identities will be kept confidential by assigning each participant a member code. All data will be kept in a locked file in a locked office or on a password protected computer.

Your child's participation is voluntary. Your decision whether or not to allow your child to participate will not affect your or your child's relationship with Watson Institute. If you decide to allow your child to participate, you and/or your child are free to withdraw your consent and discontinue participation at any time without penalty.

If you have any questions about the study, please feel free to contact me at 412-901-0851 or lwc6@pitt.edu. You may also contact my advisor, Dr. Steven Lyon at srlyon@pitt.edu you may call me or email me at any time to ask questions about the study. *If you have any questions about the rights of your child as a research subject or wish to talk to someone other the research team, please call the University of Pittsburgh Human Subjects Protection Advocate toll-free at 866-212-2668.*

Parent Consent for minor to participate in research study.

You will be offered a copy of this form to keep.

Your signature indicates that you have read and understand the information provided above, that you willingly agree to allow your child to participate, that you and/or your child may withdraw your consent at any time and discontinue participation without penalty, that you will receive a copy of this form, and that you are not waiving any legal claims.

Signature _____

Date _____

Figure 13: Parent consent letter.

APPENDIX G

STUDENT ASSENT LETTER

Assent to Act as a Participant in a Research Study

ASSENT TO PARTICIPATE IN RESEARCH

Study Title: How instruction in goal attainment and workforce readiness skills can help you become more self-determined.

1. My name is LeeAnn Wagner Cica and I am a student at the University of Pittsburgh.

2. My professor, Dr. Steven Lyon, and I are asking you to take part in a research study because we are trying to learn more about how well a certain kind of instruction helps you be more successful in making choices and improving work skills.

3. If you agree to be in this study, I will ask you to do a few things over the next few months.
   I will ask you to complete two transition assessments.
   I will ask you to set a goal from a list of needs identified from your IEP and from the two transition assessments.
   I will ask you to work to achieve the goal that you select, using the strategies that you are taught.
   I will ask you to participate in each of the lessons that we do in class on skills that get you ready for work.
   I will ask you to respond to journal prompts in writing or pictures or audio recordings.
   I will you to retake the two transition assessments.

4. I do not believe that you will be hurt or upset by being in this study. If you take part in the study and believe that you have been hurt or upset in any way, you may stop being in the study. I will not tell anyone else the things you tell me about what you learn in the class or anything you tell me about yourself or any other person. But if you tell me that someone here is hurting you, I must report it to the proper authorities.

5. You will be paid a $25.00 gift card for participating in the entire study and completing all of the tasks. If you decide to quit before the study is over, you will be paid a $12.00 gift card.

6. This study probably will help you, and if you participate in this study, it will teach me important ways to help other children like you in the future.

7. We plan to tell others about what we learn from this study, but will not include any information that would identify you. To keep your information safe, the results will be placed in a locked file cabinet. The researchers will enter study data and personal information on a computer that is password-protected. To protect confidentiality, your real name will not be used in the written copy of the discussion.

8. Please talk this over with your parents before you decide whether or not to participate. Your parent gave permission for you to take part in this study. Even though your parent said "yes," you can still decide not to do this.

Participant's Initials _____

9. If you don't want to be in this study, you don't have to participate. Remember, being in this study is up to you and no one will be upset if you don't want to participate or even if you change your mind later and want to stop.

10. You may call me at 412-901-0851 any time to ask questions about the study. *If you have any questions about your rights as a research subject or wish to talk to someone other the research team, please call the University of Pittsburgh Human Subjects Protection Advocate toll-free at 866-212-2668.*

ASSENT

The above information has been explained to me and all of my current questions have been answered. I understand that I am encouraged to ask questions, voice concerns or complaints about any aspect of this research study during the course of this study, and that such future questions, concerns or complaints will be answered by a qualified individual or by the investigator(s) listed on the first page of this consent document at the telephone number(s) given.

Signing your name at the bottom means that you agree to be in this study. If you are not able to sign your name, you do not have to. You will be given a copy of this form after you have signed it.

_____	_____
Signature of Student	Printed Name
_____	_____
Signature of Researcher	Date

Figure 14: Student assent letter.

APPENDIX H

SDLMI STUDENT WORKSHEETS

The Self-Determined Learning Model of Instruction:
Student Questions – *Phase 1 – Set a Goal*

Name _____ Date _____
(Date Phase 1 Began)

School _____

What is my goal? ☛ Let's try to identify something that you want to learn or improve on.

☛ *Please answer the questions below.*

1. What do I want to learn or improve on?

_____
_____
_____

⇩

2. What do I know about it now?

_____
_____
_____

⇩

3. What must change for me to learn what I don't know?

_____
_____
_____

⇩

4. What can I do to make this happen?

_____
_____
_____

☛ ***I have listed a specific, measurable activity for student question 4 . This is my goal, the activity I will be working on during Phase 2 and Phase 3.***

End of Phase 1 ⇨ **Go on to Phase 2**

51

The Self-Determined Learning Model of Instruction:
Student Questions – *Phase 2 –Take Action*

Name _____ Date _____
(Date Phase 2 Began)

School _____

What is my plan? ☛ Let's think about how to achieve the goal that you set.

☛ *Please answer the questions below.*

5. What can I do to learn what I don't know?

_____

_____

_____

⇩

6. What could keep me from taking action?

_____

_____

_____

⇩

7. What can I do to remove these barriers?

_____

_____

_____

⇩

8. When will I take action?

_____

_____

_____

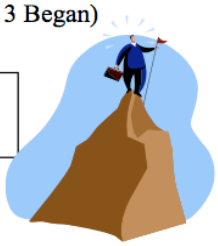
☛ *End of Phase 2. I will start working on my Plan and then go on to Phase 3.*

End of Phase 2 ⇨ **Go on to Phase 3**

The Self-Determined Learning Model of Instruction:
Student Questions – *Phase 3 –Adjust Goal or Plan*

Name _____ Date _____
(Date Phase 3 Began)

School _____



What have I learned? ☛ Let's think about whether or not you achieved your goal

9. What actions have I taken?

_____

_____

_____

10. What barriers have been removed?

_____

_____

_____

11. What has changed about what I don't know?

_____

_____

_____

12. Do I know what I want to know?

_____

_____

_____

Did I finish my goal? *Please mark in the bubble* ◯ Yes ◯ No

If YES

☛ How did I feel about the results? _____

_____

☛ **Now I will go back to Phase 1 and set a new goal.**

If NO

☛ I will look back at Phase 1 again. If the goal is still a good one for me, I will move on to **Phase 2** to revise my plan **OR** I can rewrite my same goal or change it to a new goal.

53

Figure 15: SDLMI student worksheets.

APPENDIX I

JOURNAL PROMPTS

Journal Prompts

How does it make you feel when others criticize the work you do? Are you able to respond to feedback differently? Think about a time when you criticized someone else. What happened? How did that situation ultimately make you feel?

We all communicate differently with different people in our lives. Does the way you communicate (or say things) affect how others perceive you? Explain.

Many people dream of being successful, but their actions can sometimes hold them back. What are some ways you can be sure that your actions help you to achieve your goals in life? What is more important – communicating in a way that is easy for you or communicating in a way so that others can understand you? Is there a difference? Explain.

Do you think our attitude (whether positive or negative) is something we are born with or that we have power to control within ourselves? Think about a time when your attitude (either positive or negative) impacted you and those around you. When is it most challenging for you to keep a positive mental attitude? What do you do to help keep yourself positive during difficult times?

Think of a time when you experienced a personal failure. What was the failure? How did this failure help you to become a better person, make better decisions, or succeed in a way you hadn't imagined? Do you believe that failure is important? Why or why not?

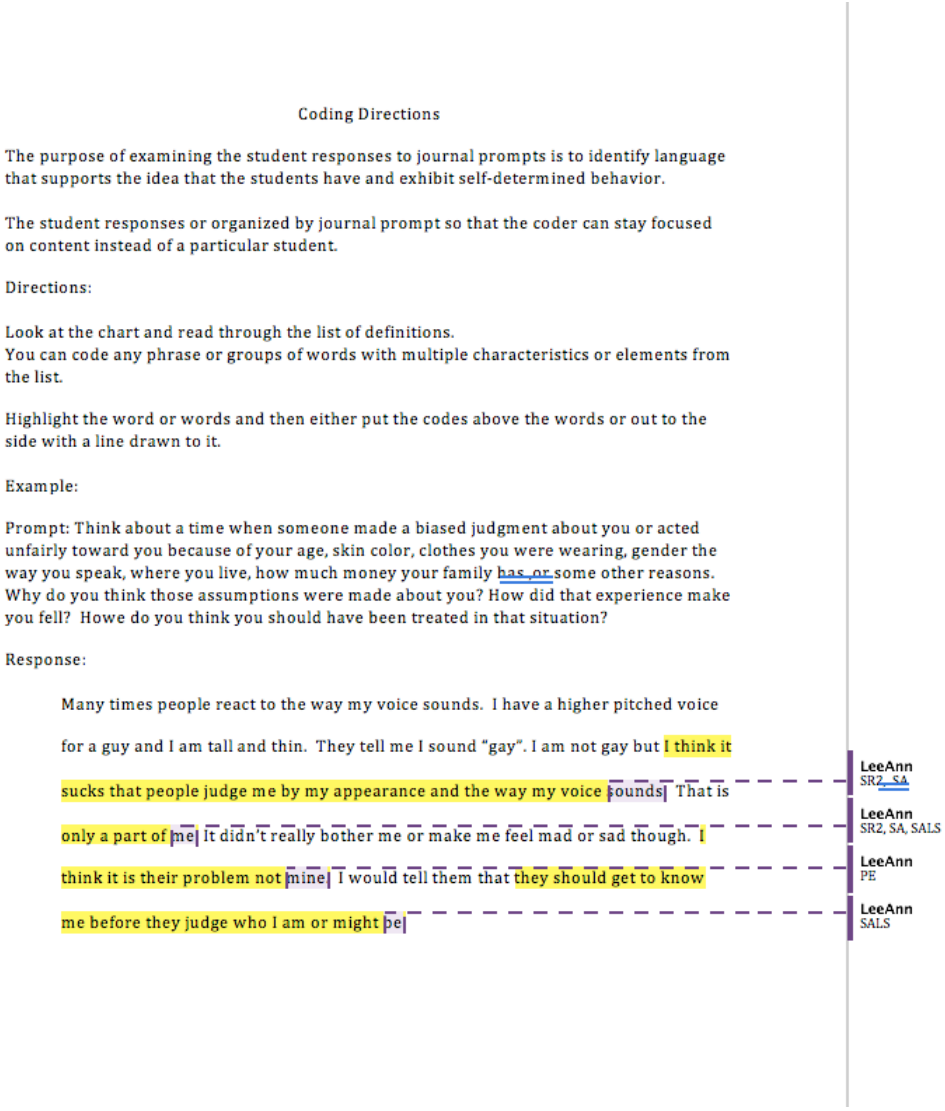
When it comes to decision-making, there are some people who like to make decisions by themselves, which others would like to talk things through with someone else. Which type of person are you? Give an example or two. What are some of the pros and cons associated with each type of decision-maker?

Describe how it makes you feel talking about yourself in a positive way. Is it easy, difficult? awkward, etc.? Since this is important when it comes time getting a job, what might you do to improve your ability to do this? If this is already easy for you, how can you be sure you don't come across as "full of yourself" or conceited?

Figure 16: Journal Prompts.

APPENDIX J

CODING DIRECTIONS FOR JOURNAL PROMPTS



Coding Directions

The purpose of examining the student responses to journal prompts is to identify language that supports the idea that the students have and exhibit self-determined behavior.

The student responses or organized by journal prompt so that the coder can stay focused on content instead of a particular student.

Directions:

Look at the chart and read through the list of definitions.
You can code any phrase or groups of words with multiple characteristics or elements from the list.

Highlight the word or words and then either put the codes above the words or out to the side with a line drawn to it.

Example:

Prompt: Think about a time when someone made a biased judgment about you or acted unfairly toward you because of your age, skin color, clothes you were wearing, gender the way you speak, where you live, how much money your family has, or some other reasons. Why do you think those assumptions were made about you? How did that experience make you fell? Howe do you think you should have been treated in that situation?

Response:

Many times people react to the way my voice sounds. I have a higher pitched voice for a guy and I am tall and thin. They tell me I sound "gay". I am not gay but I think it sucks that people judge me by my appearance and the way my voice sounds. That is only a part of me. It didn't really bother me or make me feel mad or sad though. I think it is their problem not mine. I would tell them that they should get to know me before they judge who I am or might be.

LeeAnn SR2, SA
LeeAnn SR2, SA, SALS
LeeAnn PE
LeeAnn SALS

Figure 17: Coding Directions

AF	Autonomous Functioning	A behavior is autonomous if person acts according to his own preference, interests and abilities
SR	Self-regulation	Response system that includes self-management strategies such as self-monitoring, self-evaluation, goal setting and attainment behaviors
PE	Psychological Empowerment	The multiple dimensions of perceived control including locus of control cognition and motivation
SR2	Self-realization	Persons who know and have a reasonably accurate knowledge of themselves and their strengths and limitations in a manner to act and capitalize of this knowledge
DMS	Decision-making skills	Includes choice-making but includes listing relevant action alternative; identifying consequences and the likelihood of them occurring; establishing the value of each consequence and integrating these values and probabilities to identify the most attract course of action
ILRTSS	Independent living, Risk taking, and Safety Skills	Ability to perform a wide range of tasks on their own or interdependently because of risk or safety
SALS	Self-Advocacy and Leadership Skills	Ability to advocate on one's own behalf. How to advocate and when to do so.
PSEOE	Positive Self-Efficacy and Outcome Expectancy	Conviction that one can successfully execute the behavior required to produce a given outcome.
SU	Self-Understanding	Knowledge of strengths and weakness and how they affect one
PSS	Problem-solving skills	Ability to resolve problems in both impersonal situations and interpersonal situations
GSAS	Goal-Setting and Attainment Skills	Ability to plan, set and achieve goals
ILC	Internal Locus of Control	Believing that one has control over outcomes that are important to their life
CMS	Choice-making skills	Identification of a preference and the act of choosing
SOERS	Self-Observation, Evaluation and reinforcement skills	Ability to assess, observe and monitor or record one's own behavior and then to appropriately self-reinforce

Figure 18: Coding Definitions

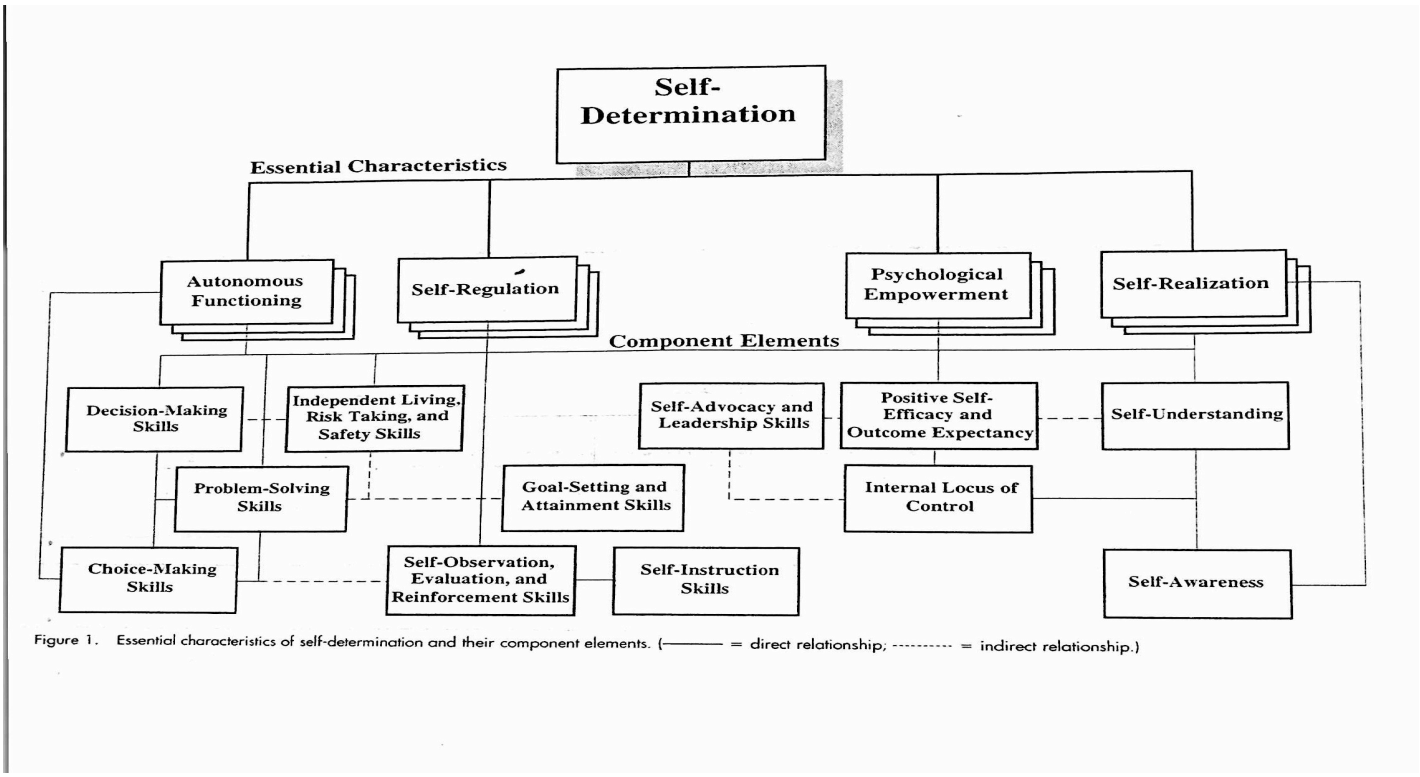


Figure 1. Essential characteristics of self-determination and their component elements. (——— = direct relationship; ---------- = indirect relationship.)

Figure 19: Coding Self-Determination Definitions

APPENDIX K

CODING INSTRUCTIONS FOR ARC SDS SECTION 2

Directions for scoring the Self-Regulation section of the ARC

This section has two sub domains. Section I involves a story where the student is given the beginning and the end. The student is to identify and write what they feel is the best solution to the problem. Each response is scored on a 0-2 scale depending upon the effectiveness of the solution to solve the problem.

Read page 80 for information on how to score this section.

Using examples from the norming sample of the types of answers that score 0,1, or 2 score questions 33 . The scorer should take into consideration individual characteristics of the student in scoring and decide if the answer achieves the ending.

To that end, there is a short biography on each student who completed the scale.

Section II of the Self-regulation domain asks the student to identify goals in several life areas and the steps needed to achieve those goals. Read page 90 to understand the scoring which in this case goes from 0-3. Again there are examples of components to look for when scoring.

Student A – Is an 18 year old male with Asperger syndrome and general anxiety disorder. He is academically above average and will graduate in June. He is able to travel using mass transit to several locations in the community using mass transit.

Student B – is a 16 year old gifted male with Asperger syndrome. He has preferred interests in calculus and advance calculus and poor executive functioning skills. He has difficulty reading other people's expressions and understanding the feelings of others.

Student C – is a 15 year old male with Autism Spectrum Disorder, ADHD and Opposition Conduct Disorder. He is of average ability and has strengths in doing hands on work. He has a goal of attending Beatty Tech for their Auto body or mechanic program next year. Student C likes to help around the school and fix things. He often bullies other students and staff and has a propensity for swearing although he controls that on community based learning sites. Student C can be very cooperative and complete work and in other instances he is likely to avoid work by verbally exploding. He has difficulty with language pragmatics which can lead him to misunderstand what others are saying to him.

Student D – is an 18 year old female with ASD, who is also bi-polar. Recently, her parents requested a re-evaluation and the psychologist found an IQ of 68 which along with her weak adaptive living skills identifies her as having an intellectual

Self-Regulation

The *Self-Regulation* section consists of two subdomains, with questions which require students to write (or dictate) answers. Section I involves story-based items where the student identifies what he or she considers the best solution to a problem. Student responses are scored on a scale of 0 to 2 points, depending on the effectiveness of the solution to resolve the problem. A "0" score means that the student either gave no answer or the solution the student gave would fail to achieve the indicated ending to the story. A "1" score indicates that the answer the student provided was okay, but might have limited utility to achieve the ending identified. A "2" score indicated that the answer provided was an acceptable, adequate way to achieve the indicated ending. Due to the nature of this process, scorers must use some judgment on the appropriateness of students' answers, including how they relate to geographic, cultural, and socioeconomic differences among students. A score of "2" does not represent an "optimal" answer, but simply an answer that would achieve the ending.

To facilitate the scoring process for this section, each question from the Interpersonal Cognitive Problem-Solving subdomain (questions 33 - 38) will be addressed individually, with suggestions as to what to look for in scoring items and examples of answers from the normative sample. These examples are not intended as guidelines, simply examples of the types of answers in each category.

Question 33:

Beginning --You are sitting in a planning meeting with your parents and teachers. You want to take a class where you can learn to work as a cashier in a store. Your parents want you to take the Family and Child Care class. You can only take one of the classes.

Ending -- The story ends with you taking a vocational class where you will learn to be a cashier.

Components to look for when scoring:

0 points - Student does not address problem, offers no means to resolve differences or simply restates given information without resolving situation.

1 point - Response indicates an action on the part of a student or another, but does not suggest how to resolve differences, such as simply stating that "I will take the class I want".

2 points - Answer addresses conflict resolution, possibly through compromise and negotiation, identifies actions on both sides.

Examples of responses:

0 points:

"I would do what I need to learn more."

"You want to take a class where you can learn to work as cashier."

"Get mad."

"I like my teacher and book and math."

"I want to take family and child care class."

"I want to take art."

"I will like to work as a cashier at a store because my grades are good."

"My parents want me to take the child care class. I want to be a cashier in a store."

"We want to take a class test."

"Cause you want the best out of life so you can get a good job and make something of yourself."

1 point:

"Well, you tell your parents that you want to take that class really bad."

"Compromise with them saying there will always be next year."

"My Mom and Dad are cool, I ask for the job and they said OK."

"Make my own choices."

"My parents let me make my own decisions."

"I told my parents I wanted to take the class."

"I do what I want to."

"I don't like children - tell teacher I'd quit school."

"Talk to parents/teacher/parents and teacher."

"I ask the teachers to put me in next year."

2 points:

"I told my parents that I would rather do something I enjoy. And ask them please can I take the cashier class."

"Tell my parents I want to take that class better because I'm interested in it."

"Talk to them. Try to convince them."

"I'd say I need this class. I'd convince them."

"So I take the class that I want to take first and learn how to cashier and after I am finished with that class I will take the other."

"You express your desire to take the cashier class and explain what you want to your parents, who respect

your decision because they feel you are mature enough."
"My teacher and I got together and we talked about what should take and adjusted for me to take the cashier's class."
"I will tell my parents that I want to take the cashier class first cause I always wanted to take cashier class. I might take other classes later."

Question 34:
Beginning -- You hear a friend talking about a new job opening at the local bookstore. You love books and want a job. You decide you would like to work at the bookstore.
Ending -- The story ends with you working at the bookstore.
Components to look for when scoring:
0 points - Student does not offer means to get a job, restates given information.
1 point - Response indicates action only on the part of one party (e.g., student, friend, boss) in pursuing job.
2 points - Answer provides actions to pursue job and action by employer in hiring.
Examples of responses:
0 points:
"I would let my friend try first."
"I will like to work at a bookstore just to have a very nice job."
"In a couple of days you worked at the bookstore."
"I love to read books and write stories. I would like to be an author."
"I went in with him."
"I want an application, I won't fill it out and take it but I won't want them to call me."
"I got the job."
"I like to work in the bookstore. My friend opening the bookstore."
"I will take them to a library."
"I want to stack books and work as a cashier."
"I learn how to give correct change and give back and take marketing class."
1 point:
"I will get information about the job and work very hard on trying to get it."

"I'd go see how much they would pay. Wages, and see what the hours are and how many days a week I would work."
"You go in and ask for the job."
"I go to the bookstore and fill out an application."
"Put in an application."
"I get info from my friend and apply for the job."
"I decided to look for the job and get the job."
"Check if you know how to do books and stuff."
"You would go to the bookstore. Then you would ask them for a job to work there."
"Ask friend where it is and apply for the job."

2 points:

"You submitted an application, they accepted you and now you are working and enjoying what you are doing."
"One of my friends, he is working there. I ask him to get me a job there. He asks the boss if one of my friends can work with us. The boss said yes, tell your friend come down tomorrow we will give him the job for a week to see if he can hold it. My friend calls and said yes, yes you got the job."
"I went with my friend to the bookstore for an interview. A week later I got a call to go to the new job opening."
"You go to the store, fill out application, talk to manager, go for the interview, make a good impression by being groomed and the manager hires you."
"I had to sign some paper and take some kind of test and then I asked the boss. That is how I got the job."
"I called and went in for an interview for the job and the Librarian hires me for the job and then I start working."
"I go and fill out application to work and talk to boss. Boss hires me!"
"Learn how to do the job. Tell manager you want the job. He says OK."
"I went to the bookstore and got an application and fill it out and talk to the bookstore owner and I got hired."
"I put in application and manager hires me."

Question 35:

Beginning -- Your friends are acting like they are mad at you. You are upset about this.

Ending -- The story ends with you and your friends getting along just fine.

Components to look for when scoring:

0 points - Restating given information, no effort to address conflict.

1 point - Limited attempt to initiate contact with friends or counselor.

2 points - Initiation of discussion/dialogue with some aspect of working out a resolution and getting along afterward.

Examples of responses:

0 points:

"My friends are mad at me because I ate all the caramel corn pop up and I said it was good popcorn."

"I would not talk to them until they talk to me."

"Do nothing."

"Maybe your friends were just in a bad mood."

"Well, I would like to take them to the movies."

"Because they are mad at me."

"I will not call them my friends anymore."

"Because I don't know what I did wrong."

"Friends like mine don't get mad."

"I'd be happy."

1 point:

"We shook hands and made up."

"I ask them for what reason or why they aren't talking to me."

"I would talk to them about it."

"I say sorry."

"Try to talk to them."

"I just ignore it and it blows over."

"Go to them and ask why they got mad at you in the first place."

"Talk to my teacher."

"Well, I ignored them and act like I don't know anything and wait for one of my friends to come up to me."

2 points:

"Why are you acting like you are mad at me? We're not mad at you. We thought you were mad at us. No, I'm not mad so let's settle it, ok?"

"I'd talk to them and see if there was a problem and then talk to them about it and see if we resolve whatever it is that happened."

"I'd ask what was going on. After I find out I would try and work with them on the problem."
"I would talk to them and work it out together."
"Me and my friends went to the counselor."
"You and your friends sit down and talk it out."
"I will say it is OK and they will say I am your friend."
"I just want to talk to them and they realized that and they said sorry."
"You ask your friends what they are upset about, you listen to them and respect what they are saying. Then you explain your side of the story reasonably."

Question 36:

Beginning -- You go to your English class one morning and discover your English book is not in your backpack. You are upset because you need that book to do your homework.

Ending -- The story ends with you using your English book for homework.

Components to look for when scoring.

0 points - Restating given information, no effort to address finding or borrowing a book.

1 point - Stating possible locations, with no follow-up, stating possible consequences.

2 points - Finding, borrowing or other means of obtaining a book to use in completing assignment.

Examples of responses:

0 points:

"You were upset because you need that book to do your homework."
"I got F."
"Get mad."
"I don't like to do homework."
"The teacher will get mad at me and talk to my parents I think."
"You should had did your homework at home and not at school."
"I got one."
"Listen carefully in class, take notes."
"I don't have my English book one morning. I was upset. I look in my backpack."
"I tell one of them where I'm going."

1 point:

"I will talk to my teacher."
"I get a pass to look for it."

"I go to lost and found to see if it's there."
"Go back to the last place you were then you might find it."
"Go look for it."
"Tell the teacher and ask what I can do."
"I will try to look much harder for my English book and think harder where I left it."
"Go to the locker to look. Go to lost and found to look for it."
"I go to my locker to see if it's there but it's not so I go to my boyfriends locker because I'm so upset and I look in his locker."
"I seem to misplace books, I can't find it. I think it's in my locker so I go look."

2 points:

"I would ask the teacher if she/he could give me another book to borrow so I could do my homework."
"I will tell my teacher and ask what I could do. Hopefully, my teacher would let me borrow another book for homework."
"I find it in a hidden part of my bag where I forgot it. I had put it there so I wouldn't forget it."
"You ask your teacher to go to your locker. In your locker you find your book and take it back to class."
"So you look on with someone else and look at home later."
"You go to lost and found and see if someone turned it in. If not go to teacher and ask cost of book. Reimburse her and get another book."
"I went to lost and found and it was not there so I went to my locker and I find it."
"Somebody took the book. Somebody else let me borrow their books."
"You probably left it at home - you can't find it. Tell your teacher and she loans you one of hers."
"I ask to use my sister's. She says OK."

Question 37:

Beginning -- You are in a club at school. The club advisor announces that the club members will need to elect new officers at the next meeting. You want to be the president of the club.

Ending -- The story ends with you being elected as the club president.

Components to look for when scoring:

0 points - Restating given information, no actions to indicate running for office, nomination or election by others.

1 point - Response indicates action by student indicating a desire for office or action by others to choose him or her for office.

2 points - Answer indicates desire for office and action by other in electing or choosing the student.

Examples of responses:

0 points:

"I'll be rich, famous."

"Talk to the President of the United States."

"I am ashamed to be in a club because I don't like to speak in front of a crowd."

"Most of the club are my friends."

"Work to meet your goals and you will have a high standard in life."

"To show everyone that you can be a good president."

"I was hoping I would be the next president."

"What I would do is to get what I get. I will not go up to him or her."

"I got everybody in if I could."

"I don't know that."

1 point:

"I will run for president."

"Tell them you want to be president."

"They vote 9 - 5 and I won."

"Bribe them."

"I won the nomination and I became the president."

"I will vote on who I want to be the next president."

"Work really hard for it."

"I told them I'd be a good president."

"Run for the president."

"I will go up to him or her and say I want to be president of the club right now."

"I will sign up and start by having a campaign party."

2 points:

"You announce your intention of running for president to everyone. You put up posters and campaign by asking members to vote for you and by saying what you plan to do as president. They vote and you win."

"I entered my name in the box and two boys and girl entered so the kids voted for me."

"Persuade the members of the club that you're the best man for the job and that you have the leadership qualities."
"You think you should run for president of the club. They vote for you."
"You ask your friends to nominate you and ask them to support you and they do."
"I will do a lot of speeches and paint posters. I beat everyone in the club."
"You ask people to vote for you and they do."
"Work really hard for it. They the kids at school will have to vote who they want."
"Work to meet your goal and vote. If they vote, you win."

Question 38:

Beginning -- You are at a new school and you don't know anyone. You want to have friends.

Ending -- The story ends with you having many friends at the new school.

Components to look for when scoring:

0 points - Restating given information, stating why they want friends with no means to achieve this, stating activities with no interactions indicated.

1 point - Response indicates action by the student to initiate interactions or responses of others to the student.

2 points - Response indicates action by the student to initiate interactions and responses of others to the student.

Examples of responses:

0 points:

"It is fun to have good friends not the ones who steal or break into the house."
"I was at a new school and didn't know anyone."
"I had a thousand friends."
"I don't know anyone. I want to have friends."
"You have to make new friends at the new school."
"Take one day at a time."
"Don't act stuck on yourself."
"I looked around."
"I don't know about that."

1 point:

"I will ask if anyone will show me around the new school."
"Talk to people at lunch, recess, and during class."

"I will go around and tell everyone my name."
"Go to my classes and be myself."
"I go up and talk to them and I go flirt with them, I'm a flirter."
"You could go to the teachers and ask them to be your friend."
"Counselor introduces you to others."
"They ask if you are new and what your name is."
"I went to talk to people and invite them over to my house."
"Just be yourself at all times and make friends."

2 points:

"Go to the office first day, get a counselor, counselor introduces you to student who introduces you to others."
"I went up to them and introduced myself to them and then they became my friends."
"I go talk to some girls and they introduce me to their friends and on and on until I had many friends."
"You join clubs, get involved in sports, and other extracurricular activities. You invite people to go to your house or to do something else with you and they do."
"Try to find someone with the same interest as you and do it together."
"I looked around for people I fit in with and they talked to me."
"I talked to them at recess and they asked me to sit with them at lunch."
"I asked him where my class was and he showed me around."
"So at lunch you sit next to a girl with no other students around and you become friends. Later you meet her usual lunch buddies and you live happily ever after."
"You join the team and you are the best player and every girl wants to go out with you."

These examples are not meant to be standards for scoring, simply exemplary responses to use when reaching decisions. Scorers should take into consideration the individual characteristics of the student and decide if the answer achieves the ending. After each question there is a line to record the score assigned by the evaluator. At the end of the section these subtotals can be summed for a subdomain score. This portion of the *Self-Regulation*

domain has 12 points possible, with higher scores representing more effective interpersonal cognitive problem-solving.

Section II of the *Self-Regulation* domain asks students to identify goals in several life areas and identify steps they need to take to achieve these goals. Points are accumulated based on the presence of a goal and the number of steps identified to reach that goal. If a student responds to the initial inquiry about the presence of a goal with the "I have not planned for that yet" response, he or she is awarded 0 points. If the student identifies a goal, but no steps to reach that goal, he or she is awarded 1 point. For a goal with 1 or 2 steps the student receives 2 points and students who identify a goal and 3 or 4 steps receive 3 points. Goals are not judged on the probability that the student can achieve them, but simply on their presence or absence. Steps to achieve the goal are, however, judged based on whether they are viable steps in the process or unrelated to achieving the goal. As in the previous section, the following section lists some components to look for when scoring these items and examples from the norming sample.

Question 39:
Where do you want to live when you graduate?
Components to look for when scoring:
0 points - No plan or goal is unrelated to where student would live after graduation.
1 point - Some living goal with no steps to indicate how to achieve that goal.
2 points - Goal stated, plus one or two steps that would lead to achieving the goal.
3 points - Goal stated, plus three or four steps that would lead to achieving the goal.
Examples of responses:
0 points:
"I have not planned for that yet."
"Not Sure."
"Happily ever after."
1 point:
"In my own house."
"In (name of town or state)."
"With parents/friends/other family."
"House, apartment, on campus, hospital, mansion."
2 (Goal plus 1-2 steps) or 3 (Goal plus 3 - 4 steps) points
"Work" or "Get a job."

"Find an apartment."
"Become a manager."
"Finish school" or "Do homework."
"Get good qualifications."
"Keep out of trouble."
"Get furniture."
"Get a house."
"Help out with chores."
"Pay rent."
"Pack clothes."
"Graduate."
"Buy a car."
"Keep my bills up."
"Meet new friends" or "Get roommate."
"Save money."
"Learn to cook."

Question 40:
Where do you want to work after you graduate?
Components to look for when scoring:
0 points - No plan or goal is unrelated to where student would work after graduation.
1 point - Some work or continuing education goal with no steps to indicate how to achieve that goal.
2 points - Goal stated, plus one or two steps that would lead to achieving the goal.
3 points - Goal stated, plus three or four steps that would lead to achieving the goal.
Examples of responses:
0 points:
"I have not planned for that yet."
"Just live on my check."
"Not sure."
1 point:
"In a store."
"My own place/office/business."
"As a (list profession or job title)."
"Record Store" or "Captain D's" or the name of another business.
"On small motors" or "teaching children" or other job description.
2 (Goal plus 1-2 steps) or 3 (Goal plus 3 - 4 steps) points
"Want ads."
"Get job application."
"Finish school."
"Ride the bus."

"Know social security number."
"Trade school in cooking."
"Talk to a manager."
"Learn to read and write."
"Go to classes at college."
"Train."
"Get an office."

Question 41:
What type of transportation do you plan to use after graduation?
Components to look for when scoring:
0 points - No plan or goal is unrelated to what type of transportation student plans to use after graduation.
1 point - Some transportation goal with no steps to indicate how to achieve that goal.
2 points - Goal stated, plus one or two steps that would lead to achieving the goal.
3 points - Goal stated, plus three or four steps that would lead to achieving the goal.
Examples of responses:
0 points:
"I have not planned for that yet."
"Go out of town."
1 point:
"Car/Truck/Motorcycle/Limo or other type of vehicle."
"Use family/friend's/parent's car, etc."
"BMW/Toyota/Ford or make of vehicle."
"Take a bus/subway, etc."
"Ask other people to take me."
2 (Goal plus 1-2 steps) or 3 (Goal plus 3 - 4 steps) points
"Work" or "Get a job."
"Get a driver's license" or "Learn driving book."
"Buy gas/insurance, etc."
"Save money."
"Pay for car/truck, etc."
"Bus pass."
"Learn route."
"Buy car."

As before, these examples are not meant to be standards for scoring, simply examples of responses to use when reaching decisions. At the end of the section is a line for the subdomain score. This portion of the *Self-Regulation* has 9 points possible, with higher scores representing more effective goal-setting and task attainment skills.

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Figure 20: ARC SDS Section two coding

APPENDIX L

GOAL ATTAINMENT SCALE FORMS

Student A		**Goal - Improve interacting verbally with unfamiliar people in novel situations**
Much more than expected	+2	In 100% of the instances of initiating phone conversations with customer service representatives, I am able to successfully gain the information needed.
More than expected	+1	In 90% of the instances of initiating phone conversations with customer service representatives, I am able to successfully gain the information needed.
Expected outcome	0	In 80% of the instances of initiating phone conversations with customer service representatives, I am able to successfully gain the information needed.
Less than expected outcome	-1	In 70% of the instances of initiating phone conversations with customer service representatives, I am able to successfully gain the information needed.
Much less than expected outcome	-2	In 50% of the instances of initiating phone conversations with customer service representatives, I am able to successfully gain the information needed.
Student C		**Goal I will give a direct answer when asked a question instead of avoiding an answer.**
Much more than expected	+2	100% of the time I will give a direct answer to a question after pausing to gather my thoughts.
More than expected	+1	75% of the time I will give a direct answer to a question after pausing to gather my thoughts.
Expected outcome	0	50% of the time I will give a direct answer to a question after pausing to gather my thoughts.
Less than expected outcome	-1	25% of the time I will give a direct answer to a question after pausing to gather my thoughts.
Much less than expected outcome	-2	0% of the time I will give a direct answer to a question after pausing to gather my thoughts.
Student D		**Goal – I will improve the length of conversations with my friends and increase the number of responses to questions.**
Much more than expected	+2	I will have a 10 minute conversation with 2 friends on varied topics.
More than expected	+1	I will have a 8 minute conversation with 2 friends on varied topics.
Expected outcome	0	I will have a 5 minute conversation with 2 friends on varied topics.
Less than expected outcome	-1	I will have a 2 minute conversation with 2 friends on varied topics.
Much less than expected outcome	-2	I will have a 1 minute conversation with 2 friends on varied topics.

Figure 21: Goal Attainment Scales for students A, C, and D.

APPENDIX M

SUPPLEMENTAL INFORMATION WEBSITES

"Skills to Pay the Bills: Mastering Soft Skills for Workplace Success" - **https://www.dol.gov/odep/topics/youth/softskills/softskills.pdf**

TAGG – Transition Goal Generator - ***https://tagg.ou.edu/tagg/main/learn***

Self-Determination Learning Model of Instruction, Teacher's Guide http://transitioncoalition.org/wp-content/uploads/2016/06/SDLMI-Teachers-Guide-4.pdf

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